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PROCEEDINGS

OF THE

MASSACHUSETTS

Homœopathic Medical Society.

1901.

VOLUME XV.

PUBLISHED BY THE COMMITTEE ON PUBLICATION.

BOSTON:
DANIEL GUNN & CO.,
31 Hawley Street,
1902.

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OFFICERS FOR 1901-1902.

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BY-LAWS

OF THE

MASSACHUSETTS HOMŒOPATHIC MEDICAL SOCIETY

AS IN FORCE, OCTOBER, 1901.

OBJECTS OF THE SOCIETY.

ARTICLE I. Since homœopathy aims at the improvement and reformation of the art of healing by aid of medicines, proved by every means that promises to enlarge the knowledge of the laws governing the action of drugs, this Society hereby declares its objects to be,—

The development of the materia medica by proving drugs upon the systems of men and animals ; the administering of medicines thus proved, to the sick, in accordance with the formula *similia similibus curanter;* the encouragement of special studies and reports calculated to improve its members in the collateral branches of medicine.

ART. II. This Society demands for itself absolute liberty in science, and hence requires of its applicants for membership no creed or confession of medical belief, but only the expression of a willingness to act for the furtherance of its declared objects.

SOCIETY.

ART. III. This Society shall consist of the persons named in the Act of Incorporation, and such other persons as may have been elected members in accordance with its By-Laws.

OFFICERS OF THE SOCIETY AND THEIR ELECTION.

ART. IV. *Section* 1.—The Society, at its annual meeting, shall elect by ballot a president, two vice-presidents, corresponding secretary, recording secretary, treasurer, librarian, and five censors, who shall together constitute an executive committee, to whom shall be intrusted the general business of the Society when it is not in session; the appointment of all standing committees and such other committees as they may deem expedient; the appointment of a necrologist and auditor, and the selection of some suitable person, and substitute, to deliver an oration at the Semi-Annual Meeting of the Society, on some subject connected with medical science. At every Annual Meeting they shall present a report of their proceedings during the past year. They shall have power to remit the dues of worthy members who may produce satisfactory evidence that they are unable to pay, and to drop members for the non-payment of dues. The officers shall continue in office till the adjournment of the Annual Meeting next after their election, at which time the duties of the newly elected officers shall commence.

Section 2.—Voting for officers of this Society shall be exclusively by ballots cast previous to the Annual Meeting. To this end the executive committee shall appoint a special election committee of three, none of whom shall be regular candidates for office, whose duty shall be to receive and count the ballots cast, and declare the results to the Society. Should any of this committee be unable to serve, the President shall appoint another eligible member in his place.

Section 3. At least sixty days before the Annual Meeting the Secretary shall forward to all members in good standing, a preliminary notice informing them of the nominations for offices made by the nominating committee; and at a date not later than fourteen days before said meeting he shall also forward (with notice of meeting and a special addressed envelope) the official ballot containing all nominations by the nominating committee, and those by any special caucuses which may have convened for that purpose. The names of all candidates for each office shall be arranged upon the ballot in alphabetical order and, unless otherwise designated, shall be known as presented by the nominating committee. The names of all candidates for re-election shall be marked with an asterisk (*), while those nominated by a special caucus of members and certified to by at least ten members present, shall be marked with a dagger (†). If any candidate decline his nomination previous to the printing of the ballot it shall be so designated thereon.

Section 4.—All nominations by special caucus must be in the hands of the Secretary at least thirty days before the Annual Meeting.

Section 5.—Members shall prepare their ballots by making the sign X against the names of the candidates for whom they wish to vote. If in any instance more names are thus marked than there are officers to be elected, no name for such office shall be counted. This shall not, however, invalidate the ballot for the other officers.

Section 6.—All members desiring to vote must return their ballots in the "official return envelope" to the Secretary, so that they shall be received by him not later than the Monday before the Annual Meeting, and he shall deliver them unopened to the special election committee for official inspection and count.

Section 7.—Candidates receiving the highest number of votes shall be declared elected.

DUTIES OF THE OFFICERS.

ART. V. The President shall preside at all meetings of the Society and of the Executive Committee, and shall deliver an address before the Society at the Annual Meeting.

In case of the absence or other disability of the President, his duties shall devolve on the Vice-President by seniority, if present. And for that purpose the person receiving the largest number of ballots for that office, shall hold the seniority. Otherwise, on such member as the presiding officer shall appoint, or the meeting may select.

ART. VI. The Corresponding Secretary shall have the charge and custody of all letters and communications transmitted to the Society; and to him they should be addressed. He shall prepare and transmit whatever communications the Society or Executive Committee may direct, and he shall perform such other duties as may be assigned to him.

ART. VII. The Recording Secretary shall give notice and keep a record of all the meetings of the Society and of the Executive Committee. He shall insert in the notices of the Annual and Semi-Annual Meetings the names of those candidates for membership that have been reported to the Executive Committee. He shall have charge of all papers and communications belonging to the Society, and shall read at the meetings of the Society all such communications as the Executive Committee may direct. He shall notify the chairman of every committee appointed by the Society or Executive Committee, of his appointment, in each case stating the commission and the names of the committee. On or before the first of April, annually, he shall transmit to the Treasurer a list of all who have become members of the Society during the year.

The Recording Secretary shall receive fifty dollars annually as a compensation for the labors and duties incumbent upon the office.

ART. VIII. The Treasurer shall solicit and receive all money due to the Society, together with all bequests and donations, and shall pay all bills after they shall have been approved by the Executive Committee, which approval shall be certified to by the Recording Secretary. He shall keep an accurate account of all receipts and expenditures, and shall give such bonds for the faithful performance of his duties as the Society may require. He shall submit his accounts to the auditor at least once each year, and shall annually make a statement of his doings and of the state of the funds in his hands, to the Society.

The Treasurer shall receive fifty dollars annually as a compensation for his services.

ART. IX. The Librarian shall have in his custody and charge all the books and apparatus of the Society. He shall keep an accurate register of the same, and arrange them in a proper manner, and shall make such disposition of them, from time to time, as the Executive Committee may direct, for the benefit of the members. He shall receive and record all donations made in his department to the Society, and shall make a report at the Annual Meeting.

ART. X. The Censors shall examine the qualifications of all persons presenting themselves for membership, and for that purpose shall hold meetings on the same days as the regular meetings of the Executive Committee, and at such other times as they may deem necessary. They shall verify the medical diplomas of all applicants for membership, and report the names of all approved candidates for membership to the Executive Committee at least three months before their election as members of the Society.

ART. XI. There shall be a Committee on the Materia Medica, who shall select remedies for proving, and shall, at the expense of the Society, obtain and distribute the same to its members, or such other persons as they may deem suitable. They shall receive and examine communications upon the materia medica from the members of the Society, and report thereon at any regular meeting.

ART. XII. There shall be appointed annually, by the Executive Committee, a Committee on Nominations composed of the President, ex-officio, and four Society members at large, whose duty shall be to nominate two candidates for each of the twelve offices named in Art. IV., Section 1, and file a certified copy of the same with the Recording Secretary, at least sixty days before the Annual Meeting.

ART. XIII. There shall be a Committee of Publication, consisting of the President, Recording Secretary, and at least three other members, to whom all matter for publication shall be referred, and under whose direction it shall be issued ; the expense of which shall not exceed in any year a sum designated by the Executive Committee.

ART. XIV. There shall be a Committee of Arrangements, whose duty it shall be to make such arrangements as will add to the interest and importance of the Annual and Semi-Annual meetings, such as selecting a suitable place for the meetings, soliciting communications, appointing subjects for discussion, providing refreshments for members, etc., subject to the direction of the Executive Committee.

ART. XV. The Executive and all other committees shall have power to fill their own vacancies.

MEMBERSHIP.

ART. XVI. Any person who has received the degree of doctor of medicine from a legally authorized medical institution, who sustains a good moral character, and is legally qualified to practice in the State where he resides, shall be eligible to membership after having been examined and approved by the Board of Censors. He shall be elected by ballot at the Annual or Semi-Annual Meeting, and his having signed the application for membership shall be considered equivalent to an agreement to abide by the By-Laws. In case that ten negative ballots shall be cast, the name of the candidate shall be referred back to the Board of Censors, who shall make a thorough investigation, and report to the Executive Committee.

The same conditions of membership shall also apply to women having like qualifications.

All members in good standing who shall have paid their annual dues for twenty-five years, consecutive or otherwise, shall attain the rank or title of life-members, and shall be entitled to all the privileges of the Society, but shall be exempt from the payment of the annual assessment.

HONORARY AND CORRESPONDING MEMBERS.

ART. XVII. Persons who have excelled, or made any great advancement in medical or other science, may be elected honorary members; and physicians of eminence residing out of the State may be elected corresponding members of the Society by a two-thirds vote of the members present at any stated meeting, provided the said person shall have been approved by the Executive Committee. Honorary and corresponding members shall be entitled to the diploma of the Society, and to participate in its proceedings in meetings devoted to scientific subjects.

ART. XVIII. Every applicant for membership shall deposit with his application in the hands of the Recording Secretary, the sum of five dollars, and shall, upon his election, receive therefor the diploma of the Society, signed by the President and Secretary. Should an applicant fail of election, the money shall be returned to him.

ART. XIX. Any member in good standing shall have the privilege of withdrawing from the Society by giving notice, in writing, of such intention, and paying all arrearages due to the Society.

RETIRED MEMBERS.

ART. XX. Members, on removing from the State or on retiring from practice, may, provided all their dues to the Society are paid, by a vote of the Executive Committee, be placed on the list of retired members, and, as such, shall be exempt from any assessments, and shall not receive, except by courtesy, any of the publications of the Society, nor be entitled to speak or vote at any of its meetings.

ART. XXI. Any person who has resigned his membership, or been placed on the list of retired members, may, on application in writing, be reinstated by a vote of the Society at any regular meeting.

Any member removing out of the State shall have liberty to retain his membership on paying his annual assessment.

EXPULSION AND DISCIPLINE.

ART. XXII. Any member may be expelled from the Society, or, having resigned his membership, may be deprived of his privileges by a vote of two-thirds of the members present at any regular meeting, upon charges of the following description, provided the charge or charges against him have first been considered by the Executive Committee, and provided he has been notified of the same by the Secretary, and an opportunity has thereby been given him to make his defense before the Society :—

1. For any gross and notorious immorality or infamous crime under the laws of the land.
2. For any attempt to subvert the objects, or injure the reputation of the Society.
3. For advertising, publicly vending, or pretending to the knowledge and use of any secret nostrum.
4. For advertising one's self, or knowingly allowing one's self to be advertised as possessing extraordinary powers or ability.
5. For any conduct which, in the opinion of two-thirds of the members present at a regular meeting, shall be dishonorable.

ART. XXIII. As the object of the Society is to improve the science of medicine, to increase the usefulness and influence of its members, and to secure greater harmony and friendship among them, therefore it is of the highest importance that each member should so conduct himself, both in his private and professional life, as to command the entire respect of his colleagues.

Every person who becomes a member is understood to take upon himself an obligation to communicate to the Society any discoveries he shall have made relating to the science of medicine or surgery, and to co-operate in such measures as may be adopted by the Society for the advancement of these sciences ; and, on his refusal to do so, he shall be subject to such censure as the Society, by a two-thirds vote of the members present at a regular meeting, shall inflict.

DUES.

ART. XXIV. Every member of the Society, the Recording Secretary, Corresponding Secretary, Treasurer, and life members excepted, shall be assessed annually five dollars, and such other assessments as a majority of the members, at any legal meeting, may determine. Newly elected members shall not be liable to assessment during the year of their election.

Any member neglecting the payment of annual assessments for three years, and having been notified by the Treasurer of such fact, may by vote of the Executive Committee be dropped from the roll of membership (special cases mentioned in Article IV, Section 1, excepted). Any person thus dropped shall have the privilege of reinstatement upon action of the Executive Committee and the payment of all arrears.

DELEGATES.

ART. XXV. The Executive Committee may appoint delegates to other societies and associations whenever they may deem it advisable to do so; and such delegates shall receive certificates of appointment from the Recording Secretary.

Accredited delegates from other societies and associations shall be allowed to participate in the scientific deliberations of this Society.

MEETINGS OF THE SOCIETY.

ART. XXVI. The Annual Meeting of the Society shall be held on the second Wednesday of April, and the Semi-Annual Meeting on the second Wednesday of October, at 10 o'clock A.M., in such one of the cities or towns of the Commonwealth as the Executive Committee may determine. A special meeting of the Society shall be called by the President, on the written request of ten members, stating the object of such meeting. At all regular meetings of the Society twenty members shall constitute a quorum for the transaction of business.

ART. XXVII. The Executive Committee shall meet on the third Wednesday of April, July, October and January. At the first or Annual Meeting, the committees, the Orator, substitute Orator, Necrologist and Auditor shall be appointed for the ensuing year.

At the meetings of the Executive Committee, five persons shall constitute a quorum. A special meeting of the Executive Committee shall be called by the president, on the written application of three of its members.

ALTERATION OF BY-LAWS.

ART. XXVIII. All proposals for alteration of the By-Laws shall be presented to the Society in writing, at a regular meeting; and shall be referred without debate, to a special committee of five, who shall consider and report on the same to the Recording Secretary, at least thirty days before the Annual Meeting. He shall mail a printed copy of such report to each of the members with the programme of the Annual Meeting.

APPOINTMENTS BY THE EXECUTIVE COMMITTEE.

1901—1902.

ORATOR, AMANDA C. BRAY, M. D., Worcester.

SUBSTITUTE ORATOR, SAMUEL H. SPALDING, M. D., Hingham.

NECROLOGIST, NATHANIEL R. PERKINS, M. D., New Dorchester.

AUDITOR, A. HOWARD POWERS, M. D., Boston.

Committee on Materia Medica.

Chairman, CHARLES H. THOMAS, M. D., Cambridge.
FRED. B. PERCY, M. D., Brookline.
EDWARD E. ALLEN, M. D., Charlestown.
FREDERICK P. BATCHELDER, M. D., Boston.
JAMES F. BOTHFELD, M. D., Newton.

Committee on Clinical Medicine.

Chairman, J. HERBERT MOORE, M. D., Brookline.
JOHN L. COFFIN, M. D., Boston.
JOHN P. SUTHERLAND, M. D., Boston.
FRED. B. PERCY, M. D., Brookline.
CHARLES L. NICHOLS, M. D., Worcester.

Committee on Obstetrics.

Chairman, J. EMMONS BRIGGS, M. D., Boston.
SARAH S. WINDSOR, M. D., Boston.
BYRON L. DWINELL, M. D., Taunton.
FRANK E. SCHUBMEHL, M. D., Roxbury.
MARY R. LAKEMAN, M. D., Salem.

Committee on Gynæcology.

Chairman, WILLIAM F. WESSELHOEFT, M. D., Boston.
J. EMMONS BRIGGS, M. D., Boston.
HELEN S. CHILDS, M. D., Jamaica Plain.
WINSLOW B. FRENCH, M. D., Boston.
LENA H. DIEMAR, M. D., Cambridge.

Committee on Surgery.

Chairman, WINFIELD SMITH, M. D., Boston.
JOHN K. WARREN, M. D., Worcester.
NATHANIEL W. EMERSON, M. D., Boston.
WILLIAM F. WESSELHOEFT, M. D., Boston.
GEORGE FORREST MARTIN, M. D., Lowell.

Committee on Diseases of Children.

Chairman, WILLIAM T. HOPKINS, M. D., Lynn.
FRANK A. GARDNER, M. D., Salem.
GEORGE E. MAY, M. D., Newton Centre.
AMANDA C. BRAY, M. D., Worcester.
MARY R. LAKEMAN, M. D., Salem.

Committee on Opthalmology, Otology, Rhinology, and Laryngology.

Chairman, N. H. HOUGHTON, M. D., Boston.
GEORGE B. RICE, M. D., Boston.
DAVID W. WELLS, M. D., Boston.
FREDERICK W. COLBURN, M. D., Boston.
ELMON R. JOHNSON, M. D., Wollaston.

Committee on Insanity and Nervous Diseases.

Chairman, EDWARD H. WISWALL, M. D., Wellesley.
EDWARD P. COLBY, M. D., Boston.
N. EMMONS PAINE, M. D., West Newton.
FRANK C. RICHARDSON, M. D., Boston.
ELLEN L. KEITH, M. D., Framingham.

Committee on Dermatology, Syphilology and Genito-Urinary Diseases.

Chairman, ORREN B. SANDERS, M. D., Boston.
SOLOMON C, FULLER, M. D., Westboro.
GEORGE R. SOUTHWICK, M. D., Boston.
JAMES KRAUSS, M. D., Malden.

Committee on Public Health.

Chairman, FRANK C. RICHARDSON, M. D., Boston.
JOHN L. COFFIN, M. D., Boston.
CHARLES L. NICHOLS, M. D., Worcester.
GEORGE E. PERCY, M. D., Salem.
FRED. B. PERCY, M. D., Brookline.
JOHN P. SUTHERLAND, M. D., Boston.
JOHN J. SHAW, M. D., Plymouth.
JOSEPH W. HAYWARD, M. D., Taunton.
J. WILKINSON CLAPP, M. D., Boston.

Committee on Registration and Statistics.

Chairman, WESLEY T. LEE, M. D., Somerville.
WINSLOW B. FRENCH, M. D., Boston.
EDWARD E. ALLEN, M. D., Charlestown.

Committee on Publication.

Chairman, GEORGE S. ADAMS, M. D., *(ex-officio)*, Westboro.
FREDERICK L. EMERSON, M. D., (*ex-officio*), Dorchester.
JOHN L. COFFIN, M. D., Boston.
WINFIELD SMITH, M. D., Boston.
FREDERICK P. BATCHELDER, M. D., Boston.

Committee of Arrangements.

Chairman, GEORGE S. ADAMS, M. D. *(ex-officio)*, Westboro.
WINFIELD SMITH, M. D., *(ex-officio)*, Boston.
GEORGE E. PERCY, M. D., *(ex-officio)*, Salem.
FREDERICK L. EMERSON, M. D., *(ex-officio)*, Dorchester.
FREDERICK P. BATCHELDER, M. D. (*ex-officio*), Boston.

Committee on Legislation.

Chairman, GEORGE S. ADAMS, M. D. (*ex-officio*), Westboro.
CONRAD WESSELHOEFT, M. D., Boston.
JOHN P. SUTHERLAND, M. D., Boston.
HERBERT C. CLAPP, M. D., Boston.
FRANK C. RICHARDSON, M. D., Boston.
JOHN L. COFFIN, M. D., Boston.

DELEGATES TO OTHER SOCIETIES.

American Institute of Homœopathy.

J. P. Rand, M. D., Monson.
H. P. Bellows, M. D., Boston.
F. C. Richardson, M. D., Boston.
H. E. Spalding, M. D., Boston.
G. A. Suffa, M. D., Boston.
N. W. Emerson, M. D., Boston.
Carl Crisand, M. D., Worcester.

Inter-State Committee of American Institute.

H. E. Spalding, M. D., Boston.
Howard P. Bellows, M. D., Boston.

Maine Homœopathic Medical Society.

Alonzo Boothby, M. D., Boston.
Mary F. Cushman, M. D., Castine, Me.
J. H. Sherman, M. D., South Boston.

Vermont Homœopathic Medical Society.

O. W. Roberts, M. D., Springfield.
Winslow B. French, M. D., Boston.

New Hampshire Homœopathic Medical Society.

J. K. Warren, M. D., Worcester.
N. R. Perkins, M. D., New Dorchester.
S. A. Sylvester, M. D., Newton Centre.

Rhode Island Homœopathic Medical Society.

J. H. Bennett, M. D., Pawtucket, R. I.
W. H. Stone, M. D., Providence, R. I.

Connecticut Homœopathic Medical Society.

George H. Earl, M. D., Boston.
F. M. Bennitt, M. D., Springfield.

New York Homœopathic Medical Society.

N. Emmons Paine, M. D., West Newton.
John P. Rand, M. D., Monson.

Pennsylvania Homœopathic Medical Society.

Frank C. Richardson, M. D., Boston.
J. Miller Hinson, M. D., Boston.

REPORTS OF COMMITTEES.

In October, 1901.

Materia Medica.

Surgery.

Opthalmology, Otology, Rhinology and Laryngology.

Dermatology, Syphilology, and Genito-Urinary Diseases.

Gynæcology.

In April, 1902.

Clinical Medicine.
Obstetrics.
Diseases of Children.
Insanity and Nervous Diseases.
Public Health.
Publication.
Registration and Statistics.
Necrologist.
Treasurer and Auditor.

The Annual Oration is delivered at the Semi-Annual Meeting in October.
The President's Address is delivered at the Annual Meeting in April.

PROCEEDINGS

OF THE

SIXTY-FIRST ANNUAL MEETING.

APRIL 9–10, 1901.

The sixty-first annual meeting of the Massachusetts Homœopathic Medical Society was held in Pilgrim Hall, 14 Beacon Street, Boston, Tuesday evening, April 9, and Wednesday, April 10, 1901.

The evening session was devoted to the bureau on Diseases of Children.

The meeting on April 10, was called to order by the President, John L. Coffin, M. D., and the records of the semi-annual meeting, also the records of the Executive Committee meetings, were read and approved.

The reports of the Treasurer and Auditor were received and accepted as follows: —

Massachusetts Homœopathic Medical Society, in account with Winslow B. French, Treasurer.

Cr.

Balance received from 1899	$2475.68
Received membership fees	145.00
" annual dues	1305.00
" Interest Old Colony Trust Co.	1.97
" " Abington Savings Bank	33.12
" " Weymouth " "	21.12
" Miscellaneous	5.00
Total amount received	$3986.89

Dr.

Expended printing, postage and engrossing	$843.51	
" stenography and report	40.00	
" salaries	100.00	
" Hahnemann monument fund	300.00	
" catering	457.50	
" rent	75.00	
" collections	28.00	
" flowers	3.50	
" Miscellaneous	10.22	
Total disbursement,		$1857.73
Cash to balance		$2129.16
Distributed as follows:		
Deposit and interest in Weymouth Savings Bank		544.60
" " " " Abington " "		574.97
(The two previous items constitute the "Fund," as set aside by Society.)		
Deposit and interest in East Weymouth Savings Bank		512.27
" " " " Brighton Savings Bank		250.00
" " " " Old Colony Trust Co.		247.32
Actual balance,		$2129.16
Deducting amount of fund		1119.57
Shows available balance		$1009.59

Respectfully submitted,

WINSLOW B. FRENCH, Treas.

Examined and approved April 8, 1901.

A. H. POWERS, *Auditor.*

COMMITTEE ON REVISION OF BY-LAWS.

J. P. RAND, M. D., CHAIRMAN.

Doctor Rand reported for the Committee on Amendments of By-Laws, and the Society voted to adopt the following amendments :—

To amend Article XVI by dropping the word " and " at the end of the second line, inserting after the word " character " in the third line the words " and is legally qualified to practice in the State where he resides " and substituting the words " shall be " for " may become " in the third line so that when amended the Article will read :

"Any person who has received the Degree of Doctor of Medicine from a legally authorized Medical Institution, who sustains a good moral character and is legally qualified to practice in the State where he resides, shall be eligible to membership after having been examined and approved by the board of censors."

In accordance with suggestions presented by Dr. J. H. Moore, the Committee recommends that the By-Laws governing the election of officers be amended so as to allow the "Special Election Committee" opportunity to receive and count the ballots upon the *Tuesday preceding* the Annual Meeting. To accomplish which, the following changes are made necessary, viz.:

Substitute the words "be unable to serve, the President shall appoint another eligible member in his place" for lines six and seven, Article IV, Section 2, relating to the filling of vacancies in the Committee so that when amended the Section will read: "Should any of this Committee be unable to serve, the President shall appoint another eligible member in his place."

Also substitute "Monday" for "Midnight." Strike out the words "of said meeting" and insert the word "following" before "morning" in lines three and four, Article IV, Section 6, so that when amended the Section will read:

"All members desiring to vote must return their ballots in the "Official return envelope" to the Secretary so that they shall be received by him not later than the Monday before the Annual Meeting, and he shall deliver them unopened to the Special Election Committee for official inspection and count."

In Article XXVI, line seven, substitute the word "twenty" for "thirty" so that when amended this sentence will read:

"At all regular meetings of the Society *twenty* members shall constitute a quorum for the transaction of business."

The following candidates were elected to membership:—

Solon Abbot, M. D., 10 Dean Ave., Franklin.
Jeannie O. Arnold, M. D., 101 Brown St., Providence, R. I.
Thomas E. Chandler, M. D., 13 Sparhawk St., Brighton.
Marion Coon, M. D., Hotel Ilkley, Boston.
Charles T. Cutting, M. D., 66 Highland Ave, Newtonville.
Charles J. Douglas, M. D., 524 Warren St., Roxbury.
Mary R. Farnum, M. D., 45 Water St., Penacook, N. H.
H. E. Fernald, M. D., Elm St., Cohasset.
Walter J. Graves, M. D., Peabody Sq., New Dorchester.
Fred De F. Lambert, M. D., 33 Summer St., Salem.
Edwin R. Leib, M. D., 45 Pleasant St., Worcester.

Francis H. MacCarthy, M. D., 20 Joy St., Boston.
Edward R. Miller, M. D., 63 Merriam Ave., Leominister.
Lillian B. Neale, M. D., 138 Marlboro St., Boston.
Elizabeth B. Newman, M. D., Belmont.
Helen F. Pierce, M. D., 13 Pleasant St., Plymouth.
Julia M. Plummer, M. D., 160 Huntington Ave., Boston.
William H. Watters, M. D., 80 E. Concord St., Boston.
Henry A. Whitmarsh, M. D., 64 Jackson St., Providence, R. I.
Ralph C. Wiggin, M. D., 26 Puritan Ave., Dorchester.

The Report of the Committee on Registration and Statistics was presented by the chairman, F. P. Batchelder, M. D., and by vote of the Society was accepted and referred to the Committee on Publication. (See "Reports" in index.)

The Election Committee reported that the following members had been duly elected to serve as officers of the Society for the year 1901-1902.

President, George S. Adams, M. D., Westboro.

Vice-Presidents, Winfield Smith, M. D., Boston, George E. Percy, M. D., Salem.

Recording Secretary, Frederick L. Emerson, M. D., Dorchester.

Corresponding Secretary, Frederick P. Batchelder, M. D., Boston.

Treasurer, Winslow B. French, M. D., Boston.

Librarian, J. Wilkinson Clapp, M. D., Boston.

Censors, Edward P. Colby, M. D., Boston, John L. Coffin, M. D., Boston, Fred B. Percy, M. D., Brookline, Nathaniel W. Emerson, M. D., Boston, Frank C. Richardson, M. D., Boston.

REPORT OF NECROLOGIST.

FRED'K A. WARNER, M. D.

1900—1901.

LUTHER MILO LEE, M. D.

Dr. Luther Milo Lee passed away at his home on Adams Street, Meeting House Hill, Dorchester, early Saturday morning, June 9th, 1900.

He was born in Canton, Conn., on May 3d, 1839 ; was a student at Westfield Academy, and a graduate of the New York Homœopathic Medical College. Dr. Lee began practice in Randolph, Mass., in 1863, and settled in Dorchester in 1868. His practice was large and lucrative. For some years he was in direct partnership with Dr. James T. Sherman of Dorchester. The partnership was dissolved fifteen years ago, although the two physicians kept in close touch with each other.

Dr. Lee's health gave way many years ago. He suffered much from bronchial and other troubles. For several years he passed his winters in Florida. Notwithstanding his sufferings, his very presence in a sick room was medicine and sunshine of itself. He was more than a family physician to many or most of his patients,—he was a very dear friend, ministering to the mind and body, and leaving behind him an influence of hope and good cheer.

Dr. Lee was married in 1863 to Mary Wales Whitmarsh, daughter of Captain Joshua Whitmarsh. A son and three daughters, with the mother survive. The Rev. E. Rodman Shippen conducted the largely attended funeral services, which were held from Dr. Lee's late home. There were many floral tokens. A delegation of physicians from the Massachusetts Homœopathic Medical Society were present at the services. The burial was made in the family lot at Abington.

" May he rest in peace, and light perpetual shine upon him. "

BENJAMIN H. WEST, M. D.

In the death of Benjamin H. West, the Massachusetts Homœopathic Medical Society lost one of its oldest members, as he was elected in 1856. He was chosen as orator at the April meeting of 1857.

He had the honor of being one of the eight physicians who were tried by the Massachusetts Medical Society for practicing homœopathy while they were members of the Massachusetts Medical Society.

His defense was able and scholarly.

Dr. Benjamin H. West, one of the oldest living graduates of Harvard University, died October 11, 1900. He was born in Nantucket, Nov. 10, 1814, and was the son of Paul West, a lieutenant in the British navy and commander of the ship Cyrus. His early education was received at the private school of Nathaniel Bavney at Nantucket. When eleven years old he was placed in the Plainfield Academy, from which he went to the academy of Simeon Putnam at North Adams, where he was fitted for Harvard, which he entered in 1831. He graduated in 1835, in the class with Bishop John Williams, of Connecticut, Judge E. R. Hoar, Amos A. Lawrence, John A. King, and others who have been prominent in public life. By his death only five survivors of the class remain.

After graduation he entered the private medical school of Drs. Lewis, Otis, Ware, and Channing, where he studied homœopathy, and graduated at the Harvard Medical School in 1838. He commenced professional life in partnership with Dr. Johnson Gardner, at Pawtucket, R. I. In the early forties he went to California, where he remained for several years, being a member of the Committee of Safety during the troublous times of 1849. Later he was for many years head surgeon of the Pacific Mail Steamship Company. Returning East, he made his residence on a portion of the Minot estate in Dorchester, where he lived until his death, a period of over thirty years. He retired from practice several years ago, although he was still an ardent student of medical topics. He had travelled extensively in foreign countries and could speak fluently eight languages.

In 1835 Dr. West married Elizabeth A. Minot, and in 1885 the couple celebrated their fiftieth wedding anniversary, Mrs. West dying shortly after. A son and two daughters survive him.—*Boston Transcript.*

RESOLUTIONS.

Whereas, Our Nestor, Dr. Benjamin H. West, has been removed from us by death at the ripe age of fourscore and six, therefore,

Resolved, That in his death Homœopathy has lost one of its earliest exponents in this part of the country, as well as one of its most earnest advocates.

Resolved, That although he has been in retirement from active practice for about thirty years, yet he has never on this account lost his interest in the cause, but has always been eager to attend our meetings, to lend his assistance when its interests seemed to be assailed or when aggressive action seemed to be needed. At such times, although his venerable appearance and long, flowing white hair and beard picturesquely suggested the dignified patriarch, yet the fiery impetuosity of his speech and his sustained eloquence were convincing proof that in spirit he kept as young as the youngest. A man of the highest character and of kindly disposition, he will long be missed.

H. C. CLAPP, M. D.
C. WESSELHOEFT, M. D.
H. B. CROSS, M. D.
Committee.

SARAH E. SHERMAN, M. D.

Dr. Sarah E. Sherman passed from this life December 6, 1900, after an illness of one year. Dr. Sherman was born in Fayston, Vt. She was educated in Vermont schools, and taught in Vermont and Massachusetts. While a teacher in Fitchburg schools, in 1872, she began the study of medicine with Dr. D. B. Whittier, and in 1876 she completed her course in the Boston University School of Medicine. The same year she went to Salem and entered into active practice. She had the distinction of being the first woman physician in Salem, and was frequently called in critical cases in Eastern Massachusetts. She was foremost in the organization of the Salem Woman's Club, and was its first president. She was for several years a member of the local school board, and was one of the staunchest friends and supporters of the Kindergarten of Salem. In 1879 she was elected a member of the American Institute of Homœopathy. She was also at one time president of the Massachusetts Surgical and Gynæcological Society, and was a member of several other prominent Medical Societies in the State, including the Massachusetts Homœopathic Medical Society.

Dr. Sherman was for years an honored trustee of Emerson College, where she was lecturer of Anatomy and Physiology. She was also one of the trustees of Boston University. Her presence in the classroom was characterized by that serenity and strength which made her a power in professional and social circles. As a teacher her judgment was unerring, her sympathy and tact unfailing. As counselor and friend, she will be sorely missed in the institutions of whose strength her wisdom has been a valuable element.

A year ago Dr. Sherman was obliged to leave her professional duties which had for years commanded so much of her strength and time. She would take no vacation until necessity compelled rest. For several months she travelled in the West and South, but as her health gradually declined she returned East and spent the summer in Vermont. The last weeks, which were marked by intense suffering, were spent in Dr. Sherman's beautiful home in Salem with her nearest friends.

The funeral services were held in the First Unitarian Church in Salem, Dec. 8, 1900, and were attended by a great throng of her fellow townsmen, a large representation from the Faculty and Student body of Emerson College, and many others to whom she had endeared herself by her life service.

CHARLES LUTHER FARWELL, M. D.

Charles Luther Farwell was born in East Cambridge, Mass., May 4, 1860. He was the only child of Luther and Loise A. Farwell. When quite young he was removed with the family to Boston, where, with the exception of a temporary absence for study, he passed the remainder of his life.

He was educated in the public schools of that city. At a suitable age he commenced a business career as an accountant in a large mercantile establishment; but with a strong leaning towards the medical profession, he entered the Medical Department of Boston University, and graduated later. He then went abroad for further instruction in surgery and gynæcology, dividing his time between the hospitals of Prague, Vienna and Leipsic. Returning, he immediately began practice in Allston, in the Brighton district of Boston, where he quickly secured a lucrative practice. He was well skilled and successful, and until the failure of his health, exceptionally prosperous.

Dr. Charles Luther Farwell died of chronic nephritis, December 18th, 1900. On the day of embarking to Europe he was married to Miss Helen C., only daughter of the Rev. M. Emory Wright. She survives him, but he left no children.

As a man and as a Christian gentleman Dr. Farwell had many estimable qualities. He was exceptionally true and honest in heart, upright in his conduct, with the highest sense of professional integrity. He was friendly and pleasing in manners, which made him especially welcome in the sick chamber.

He was elected a member of the Massachusetts Homœopathic Medical Society in the year 1897. His eminent qualifications in his profession were rapidly being recognized by his medical brethren when his untimely end came.

HENRY F. BATCHELDER, M. D.

Dr. Henry F. Batchelder died February 15, 1901, aged 40 years, at his home in Danvers, Mass., from cerebral meningitis, a development of a severe attack of La Grippe.

Dr. Henry F. Batchelder was born in Middleton, October 10, 1860, being descended from Joseph Batchelder, who came to this country in 1636, the Batchelder of the oldest and highest recorded genealogy. He was the son of John A. and Laura A. Batchelder. He was educated in the public schools of Salem, graduating from the High School in that city in 1879 ; in Boston University Medical School, where he obtained the degree of C. B. (Bachelor of Surgery) and M. D., in 1883. He began practice in his native town, and shortly afterwards came to Danvers, where his recognized skill and great popularity secured for him an extensive and high class patronage.

He was a member of the school board during six years, and belonged to Amity Lodge of Masons, Holton Chapter, Winslow Lewis Commandery, and other fraternal organizations. He was a member, and had been an officer, in several medical societies, including the Massachusetts Homœopathic Medical Society, the Massachusetts Surgical and Gynæcological Society, the Boston Homœopathic Medical Society, the Essex County Homœopathic Society, also the American Institute of Homœopathy. In April, 1884, he was married to Miss Caroline E. Taft of Dedham.

The funeral took place in the Maple Street Church, which was filled to overflowing, and hundreds went away, being unable to gain admission. Floral tributes poured in in great volumes, coming from people of all classes. The Masons were out in full force, and acted as escort for the body and assisted in the funeral service. Thus passed away a noble physician of beautiful character, of kind administration, practical Christianity and commendable works.

PRESIDENTIAL ADDRESS.

BY JOHN L. COFFIN, M.D.

Ladies and Gentlemen, Members of the Society:

Since last we met, the final year of a century has closed, and with its demise the nineteenth century has passed into history. Not the history that is written, but the history that is. The history that is written at best gives only the salient points, the remarkable things that have been done, the notable or notorious people that have lived, and from the perusal and contemplation of these recorded facts we endeavor to construct an idea of the genius of the ages past. Not so with the remarkable century just gone. We are not yet so remote that it is necessary to summon our imagination to help in forming our estimate.

The blood is hardly yet cold in our veins that fought at Lexington or froze at Valley Forge. Our ears still tingle and our hearts throb at the voice of Patrick Henry, and Jefferson, and Webster, and Calhoun, and Clay. The story is still told in the flesh, of Bull Run, of Fredericksburg, of the Wilderness, of Gettysburg, and Antietam. The trying days of the reconstruction period are yet a reality to many of us and the solution of the race problem is still with us to-day in all its complexity. We no longer drag our weary way over the hot and dusty road in the stage-coach, but travel on the wings of the wind surrounded by all the luxuries of an up-to-date hotel. We talk almost, if not quite, all around the globe. Distance and space are annihilated. These are facts well known to us and these are the things that will be known to the future, emblazoned as they will be on the pages of the written book.

But of more importance far than all this, is the fact that we still know and feel all those tremendous, subtle, silent forces of humanity which have made these achievements possible. We know the denial and self-sacrifice of the parents that the children might be educated, and the earnest struggle and endeavor of the children that they might be worthy of the sacrifice. We remember that early and wholesome discipline at home and in school, resulting in that intelligent obedience which enables the American citizen-soldier to walk unflinchingly into the hell of battle and to stay there until he wins. We feel the honest struggle of the New England conscience with dogma and tradition, that everlasting reaching out after truth which resulted in a religious emancipation, and rendered possible an Emerson, a Channing, a Theodore Parker and a Phillips Brooks. We are yet an integral part of that living, breathing, resistless, onward-striving humanity, which under Divine guidance has made the nineteenth century the best the world has yet seen. Never, I believe, has the intelligence of the great mass of people been so well developed as to-day, never has the laborer been so well-housed and well-fed both physically and mentally, never to so great a degree has the possession of great wealth been so much regarded as a sacred trust to be used for the benefit of mankind, and therefore it is that at the dawn of a new century we stand fully conscious of the debt we owe the past, fully appreciative of the responsibilities thereby entailed upon us, but at the same time proud of our forbears and their work, strong in our ability to do the duty of to-day, and filled with courage and determination for the future.

So has it been with our chosen profession. As we look over the past hundred years we are dazed at the names and deeds that stand out in bold relief. The names of Jenner, Claude Bernard, Rasori, Brussais, Couvelhier, Andral, Magendie, Rokitansky, Virchow, Lister, Cooper, Langenbeck, Hutchinson, Paget, Spencer Wells, McDowell, Sims, Warren, Dunglison, Austin Flint, Mott, Hamilton, Gross, Bigelow, Meigs, Agnew, and many others. And in our own special school the names of Hahnemann, Stapf, Gresselich, Fleischman, Quin, Jahr, Gram, Pope, Hughes, Drysdale, Lippe, Dunham and Talbot.

When we recall the discovery of the Homœopathic law, of anæsthetics, of the principles of asepsis and antisepsis, when we contemplate the advance made in surgery and the perfection of the various instruments to assist us in diagnosis, we stand almost aghast. But of far greater moment to humanity is the fact that, guided by the brilliant and indefatigable labors of these noble men, the whole body of medical men and women have steadily and persistently added their mite to the work until the ordinary, every-day, average practitioner to-day has more knowledge of the human body in health and disease that is accurate and true, than ever before since the world began. This is a condition of affairs of which we are a living part, a condition of which we may justly be proud, and which should constantly stimulate us to add what we may, be it ever so little, to the sum total of medical knowledge.

Fascinating as is the temptation to dwell in the glorious past, we must live in the prosaic present. It was wisely, or otherwisely, ordained by our founders, that the society should twice each year be benefited, or bored, by an oration and presidential address.

As we opine that the object of the oration was to give such members as might be selected, full license to choose their pet subject and display their elocutionary and oratorical powers through all gradations from a Booth to a barn-stormer, so we conceive that the object of the presidential address was to consider more especially those things of vital interest to the Society itself, a sort of annual stock-taking. We are the representative Society of our chosen faith in the State, and as such our interests are two-fold; first as regards those matters of general interest to the whole profession, and second, those pertaining more especially to Homœopathy.

Not for some years have there been before the Legislature matters of such importance to our profession. The first matter to come up was a bill to give the College of Physiological Optics permission to grant the degree of Doctor of Physiological Optics. The general character of the scheme may be judged from the fact that of sixteen students enrolled, the names of four appeared in the application for a charter, and the names of eight of the sixteen appear as trustees of the institution. Through the efforts of the leading oculists of the city, backed by the profession generally, we are happy to say the bill was practically killed in committee, the committee reporting "reference to next general court." Of far greater import and danger to the welfare of both the public and the profession, was a petition of one Dr. Immanuel Pfeiffer, praying for some modification of the existing laws governing the Board of Registration in Medicine whereby the fees for examination should be reduced and graduates of legally chartered medical schools should be granted licenses without an examination. This was a very crafty and plausible attempt to cripple absolutely the Board of Registration by cutting off its resources and its principal power. The petitioner as well as remonstrants were represented by able legal counsel. There were present at the hearings among the remonstrants the president of the Massachusetts Medical Society, the president and vice-president of the Massachusetts Homœopathic Medical Society, the president and legislative committee of the Boston Homœopathic Medical Society, and many others. Communications were read by the deans of Harvard, Boston University and Tufts Medical Schools. As a result of their work the committee unanimously reported "leave to withdraw," which was accepted by the House a few days after, without debate.

The third legislative matter of interest was a petition afterwards incorporated with the report of the Board of Registration, including under the rules and laws of the Board, osteopaths, mental healers, clairvoyants and Christian scientists, who heretofore have been exempt. This matter is still under consideration, and the influence of this as well as of other societies is being used to further the recommendation. The point I wish to emphasize is that the above pernicious legislation has been defeated, largely because there has been harmonious and concerted action by the medical fraternity, brought about very largely by the interest and activity of the committees on legislation of the various societies, more especially by that of the Boston Homœopathic Medical Society, headed by its able president, Dr. Strong, whose labors were unceasing and invaluable.

All these matters but tend to show that there is no reason why, under proper management and well-organized co-operation, we cannot have here in Massachusetts as satisfactory laws regulating the practice of medicine as in any State in the Union.

I have not touched upon the question of vivisection and anti-vivisection, because that is perennial. We can examine that at any time. So far as I know, no injurious legislation has been enacted, and the cat-loving old maids of both sexes have had the pleasure of doing what they considered their duty.

Next to these matters of general interest to us as medical men and women, come those of special interest to us as homœopaths. Our Massachusetts Homœopathic institutions should always be the especial interest of this society, for either directly or indirectly we are held accountable and are accountable for their success. Our Massachusetts Homœopathic Hospital has throughout the year fully maintained its well established reputation for good work. The staff has been materially enlarged by the appointment of second assistant physicians and surgeons. What to my mind is more a cause of congratulation is the fact that never before has the medical side of the hospital been so continually occupied. This certainly shows that the appreciation of our methods of practice is constantly growing with the public. Our Hampden County members are to be cordially congratulated on the opening of the new Hampden Homœopathic Hospital, and treading close upon the heels of this fact comes the good news that undoubtedly the name of Essex County Homœopathic Hospital, of Salem, will before long be added to our list. Of one thing this Society may be sure, and that is, that if Essex County has started to have a Homœopathic hospital she will have it, for since the foundation of the world — the New World, I mean — Essex County has generally accomplished what she set out to do, whether it be to catch fish or burn witches.

Of the State Insane Hospital at Westboro, I can say that we still cure a larger per cent. of cases admitted that are classed as curable, than any other State hospital; its accommodations have been overcrowded during the entire year, and the Legislature will undoubtedly appropriate means for additional buildings during the present session. What is true of our hospitals is equally applicable to our dispensaries. At the Boston Homœopathic Dispensary on Harrison Avenue the clinics are constantly increasing in size, and more room or the opening of the building for afternoon hours is imperative.

Under the auspices of a committee appointed by the Society in 1873, there was established a medical school. What has the Society as a society done for it since? Search the records as I may, I fail to find a single mention. Apparently it gave birth to and then deserted its offspring. But the child fell into good hands, was well tended and well nourished, and to-day has arrived at healthy maturity.

The attitude of the Society toward the college has for the most part been one of indifference. This is not as it should be. The college should always have the cordial support of the Society, and the faculty should always feel that in their labors they have back of them the friendly support and the influence of this representative body. The Society in no small degree is dependent upon the college, for the last census shows that out of our published list of members, numbering 329, 224 are its graduates. If, then, the Society desires that the new additions to its membership shall be well-equipped men and women, capable of becoming useful, active workers and ornaments to the profession, it certainly is for its interest to encourage and support by all means in its power, the college from the graduates of which the Society largely recruits its members. There are many ways in which this body might be helpful to the college. At the present time the trend all along the line is toward a marked advance in the requirements for admission to the study of medicine. Some advance has already been made, but much more is necessary, and so far the faculty has hesitated to take so radical a step. One advance to the standard already set by the leading institutions is, in my judgment. much less pernicious than a series of slight advances, and were the faculty assured by united action that such a move was desired and endorsed by this society, I am sure the faculty would feel encouraged and sustained in such action. The immediate result of such a change is loss of students; the ultimate result will be an increase in numbers and quality. Loss of students means loss of income, a most serious matter for any institution dependent almost entirely upon fees for its maintenance. For a time, then, during the transition period, there is grave danger of the institution becoming financially embarrassed. Here, again, this Society can be of great practical assistance, not by the direct contribution of money, but by their influence with those who have means and are seeking worthy channels in which to dispose of it. It was this influence that built our hospital and endowed it so handsomely. It will do it for the medical school if the Society will only use its individual and united efforts in that direction. I would earnestly recommend, therefore, that this Society appoint a standing committee, no member of which shall be a member of the faculty, to confer with that body as to ways and means in which and by which the society may be of practical assistance to the medical school.

Finally, I wish to speak somewhat of the relation of the members to Society, and the work of the Society as a whole.

The attitude of each and every member should be one of loyal and enthusiastic support, with a cheerful willingness to work. It has been my experience in the past on more than one occasion to have heard a member say, "Oh, yes, I belong to the State Society, but I don't get much out of it. I pay my fee every year and get a dinner and hear a few papers read, but I can't say I get much out of it." Such a spirit is unworthy of the age in which we live. Not what do I get out of it, but what can I put into it for the benefit and help of my fellow members, should be the motto of every man and woman worthy to meet in this body. A more recent criticism, and one not entirely without reason, is that too many of the papers are presented by the specialists, and so are not of a character to be most helpful to the general body of general practitioners. The best answer to this criticism is, that the critics themselves should do more work.

The specialists more frequently prepare papers because they are undoubtedly more frequently urged by the committees of the various bureaus; they are more frequently invited, no doubt, because, giving as they do all their time and study to the perfection of a single department, they are the more conversant with the most recent advance along their particular line, because they have more time for literary work, and because they are oftentimes more accustomed to express the results of their investigations and experiences on the written page. Nevertheless, there is always the danger, strive against it as one may, of the specialist studying the case too much from his particular point of view, and therefore it is that there is no paper more valuable and more acceptable than that carefully prepared from the rich store of clinical experience, which is the possession of every conscientious general practitioner. The more they write, the less will the specialists be called upon.

To one who has watched the general character of the work of the Society for the past fifteen or twenty years, the improvement is marked and gratifying. The papers cover a wider range of subjects, show evidence of more study and extended research, and conclusions are more frequently drawn from the consideration of a collection of recorded clinical cases than from the single case as formerly. But in one respect the Society has not made satisfactory advance, that is along the line of the study and development of our materia medica, a department vital to our existence as a distinctive school. I do not know that the Society should be blamed, indeed I do not feel that the society should be criticised for this. There are many good and sufficient reasons for it, but I do believe the time is ripe for work on this most important subject. It is very gratifying to know that in some direction this work has been begun along satisfactory lines.

At the last meeting of the American O. O. & L. Society, the president, Dr. H. P. Bellows, of Boston, presented a definite plan for the revision of the materia medica. The provers should be hired, they should be examined by a general practitioner, and by the various specialists, to note their normal condition. During the proving, under the care of a director of provings, the prover from day to day is to undergo physical examination, and any deviation from normal noted. Such, in brief, are the gross outlines of the plan. The committee on presidential address reported that the suggestion contained therein should be put to the practical test and committees should be appointed in the various cities to prove a single drug. The committee consists of a director, two general practitioners, and one practitioner in each branch of special work.

In Brooklyn, New York, the necessary money has been raised, the committee appointed, and the work begun. Here in Boston the committee has been appointed, with Dr. E. P. Colby as director. Dr. Bellows is general director over all committees. This is the right and scientific way in which to prove a drug, where the narrative of the prover is supported by the physical, chemical and pathological examinations.

I sincerely trust that this Society will see its way to do something to encourage persistent, steadfast work in materia medica, and with this end in view would recommend that the Society offer annually or biennially a prize for the best paper on materia medica, and that the contest be open to the members of the senior class of the Boston University School of Medicine.

The danger in the present attitude of the old school toward us, which may be summed up as one of tolerant indifference, the apparent tendency of some few of the newer members of our faith to long after the flesh-pots of allopathy, the possibility of the official recognition of our school in the army and navy, are all themes worthy of our consideration at this time, but I fear I have already taxed your patience far beyond the bounds of courtesy.

To-night, upon the threshold of a new century, gaze as far as we may, there is to be seen only encouragement. We have an established medical faith. It has been accepted by many, and that many increasing every day. It has been established by one hundred years of indomitable persevering work by noble men and women who had that greatest of all courage, the courage of their convictions. It is for us who know that their convictions were true and right to see to it that their labors have not been in vain. True, we are yet a minority in the medical world, but in all great reforms that ever have been, or ever will be, it is necessarily the minority that is right. Whenever I meditate on minorities, I am always reminded of a story of the late Dr. Bartol. The reverend doctor had invited a young friend to assist him in a service in the old church at the West End. The two reverend gentlemen sat in the pulpit while the congregation assembled. There were not many, and as the time approached for the service to begin, the young man remarked upon the few people present. The elder divine peeked around the desk, surveyed the congregation, and then quietly remarked, "Yes, yes, there *are* but few *such* people."

REPORT OF THE COMMITTEE ON DISEASES OF CHILDREN.

FRED. B. PERCY, M. D., *Chairman.*

I. Antitoxin in the Treatment of Diphtheria,
W. C. GOODNO, M. D., Philadelphia, Penn.
Discussion opened by Geo. B. Rice, M. D.

II. A Method of Infant Feeding, WM. F. WESSELHOEFT, M. D.
Discussion opened by W. T. Hopkins, M. D.

III. Some Interesting Cases of Tuberculosis in Children,
D. P. BUTLER, JR., M. D.
Discussion opened by H. C. Clapp, M. D.

IV. Experiences with Marasmus at the Sea Side Hospital.
CARROLL C. BURPEE, M. D.

V. A Leaf from the Children's Ward at the Massachusetts Homœopathic Hospital,
A. S. BOOMHOWER, M. D.
Discussion opened by Walter Wesselhoeft, M. D.

VI. A Contribution to the Study of the Treatment of Pertussis,
F. L. BABCOCK, M. D.
Discussion opened by F. B. Percy, M. D.

THE ANTITOXIN TREATMENT OF DIPHTHERIA.

BY WM. C. GOODNO, M. D., PHILADELPHIA.

As I have spoken upon the antitoxin treatment of diphtheria before two State Medical Societies, and before the Medical Society of the District of Columbia, and some of you may possibly be acquainted with the fact, it will not be amiss for me to say to you that the address has, in each instance, been delivered in response to a request that I should discuss this subject. It was in each case a sort of "Macedonian cry." For this occasion, however, I was simply requested to prepare a paper. I accepted, and immediately selected for my subject the antitoxin treatment of diphtheria, possibly that I might discuss this subject for once of my own free will, and for the further reason that, marvellous to state, much missionary work must still be done on behalf of this agent. Perhaps I was influenced somewhat by the ease with which I could, in the busy season, prepare a paper upon a subject I have considered so often, but will not commit myself upon this point. I commenced the use of the antitoxin when it first appeared, and have continued to employ it in the treatment of all cases of diphtheria I have since treated.

First, I desire to give you the personal experience upon which my paper is mainly based. To this date I have treated 217 cases of diphtheria by means of subcutaneous injections of the diphtheria antitoxin. All of these cases have been seen in Philadelphia and its suburbs, in private practice, and all have been the patients of other physicians. I have been able to treat this rather large number of cases, under the circumstances, for the reason that comparatively few physicians in Philadelphia employ this agent, and when they do, many send for some one who has experience with it. Fortunately, the number who are personally employing it, and administering it early, is rapidly increasing. It is not an unusual thing now for me to meet a friend for whom I used to treat cases and have him say, somewhat as one did last week, "You have taught me the trick ; I inject my own cases now ; I have had 6 cases since I saw you last ; all have done well." Of the 217 cases, 9 have died—about 4 per cent. Remembering the 12 to 15 per cent. usually reported as the mortality of this disease under antitoxin treatment, you may be inclined to say to yourselves "This mortality is too small ; there must have been many mild cases." But remember, such reports are from hospitals. Any one can get the same result, I repeat, if the cases are treated properly and under similar conditions. Some of you, who feel that you do not get the results you should from the administration of your remedies, chafe when some one wisely says "You did not select the proper remedy." You feel, perhaps, that only to the few is given the peculiar ability and the knowledge to select the right remedy. My worrying brother, here is a disease—a terrible, a deadly disease—for which you can select the right remedy every time. You cannot only select the remedy, but you can employ it, and get a successful result nearly every time. What can you hope for in medicine better than this? Let us work, and pray that the day may soon come when we shall be able, with equal success, to employ an antitoxin for pneumonia and others of the serious acute infections which now claim so many victims. In private practice among the better classes, *i. e.*, people who are well-housed, well-fed, well-clothed, and early attended in sickness, nearly every case of diphtheria should recover. Most of the fatal cases in my series had been ill from four days to a week before receiving the antitoxin, and presented the evidences of intense toxic poisoning. I think it is within reasonable bounds to say that the mortality in private practice should not exceed 5 per cent. The difference in mortality between hospital and private practice indicated is not greater than exists in pneumonia. In attempting to convince the doubters, and those who have not yet formed opinions respecting the value of antitoxin, we are much hindered by certain ignorant, careless statements, such as, "I have practiced medicine for twenty-five or thirty years, and have lost but one case of diphtheria;" or, "I have lost only two or three cases." One who makes such a statement does not know what true diphtheria is, or he has not had the cases to lose, or is carelessly untruthful. Without antitoxin, from one-quarter to one-half, and in certain epidemics two-thirds, of all cases of diphtheria die, no matter what the treatment may have been, whether allopathic, the crudest homœopathy, well-selected potentized drugs, or the dog-milk kind. We all know that many cases of acute diphtheria are controlled by our general methods of treatment, and many of us know all about the exudates which so frequently disappear under the influence of this, that and the other remedy, which are not diphtheria, but which so often pass as that disease. I passed through the stage of great confidence in remedies many years ago. I was sufficiently deceived to think I could cure diphtheria quite regularly, and made permanent my mistake by publishing my conclusions before I had had sufficient experience. After a time I got some diphtheria of malignant type. In spite of my remedies, five died in one family and three in another. I lost eleven in one year when the disease was epidemic. Somehow or other lachesis 30 did not perform its duty when the disease began on the left side, etc. The same result followed the use of other seemingly well-indicated remedies, and Hering, Raue and Guernsey, who advised me, did not enable me to get any better results. Dear old men; how honest, earnest and painstaking they were! Results were not improved by crude methods.

Statistics are not necessary to convince any one of the value of antitoxin in diphtheria. It is simply necessary to employ it a few times properly. It may be stated, however, without fear of successful contradiction, that nothing in therapeutics is as well supported by figures as this antitoxin treatment of diphtheria. Watch the transformation which follows its use in a typical case which comes under treatment rather late—say about the fourth day of the disease. I shall never forget the remarks of my friend, Dr. William K. Brown, over the 'phone one morning. After the customary hello's, he said, "Is is not marvellous?" "What marvellous?" I replied. "The antitoxin," said he; "the membrane is hanging in strings, the temperature dropped four degrees in eight hours, the glandular swelling has already subsided much, and the childs wants to eat."

The previous day I had injected a patient of his, three years of age, with the antitoxin. The child had been ill four full days, the exudate was abundant, the throat almost closed by it, and there was an unusual degree of swelling of the tonsils, uvula, and glands at the angles of the lower jaw. The latter swelling was as great as we meet in a mild case of mumps. The temperature was 104.3°, the child was very drowsy, and the urine scanty and highly albuminous. Convalescence progressed without interruption. This was the first time the doctor had observed the treatment. Any one who has seen such a typical result for the first time must feel impelled to cry out "The day of miracles has returned!" Within an hour I have returned from seeing two cases of diphtheria in consultation with Dr. Neville of Philadelphia. The first, an only child, three years of age, I saw three days since, for the first time. She was then in the fourth day of illness. The exudate had a peculiarly dense, almost cartilaginous appearance. Dr. Middleton, who consulted with us, called the peculiar exudate present "albuminoid." The throat was full of it. Forty-eight hours after the first injection of 3,000 U of Mulford's concentrated serum a membranous cast of the entire soft palate, tough, and one-eighth inch thick, was loosened and readily removed. Only a thin film re-formed, and the child appeared much better in general on the following day. The temperature varied from 100° to 101° and three-or-four-tenths. (I like a higher temperature, as it indicates greater power of reaction against the disease.) Then came a day of doubt. The child was drowsy, the temperature lower, the pulse irregular and feeble. What was to be done? Three thousand to six thousand U of the diphtheria antitoxin had been administered daily, and still, after marked improvement, the tide had set against the patient. Believing we were dealing with a mixed infection, we decided to inject at one spot 3,000 U of the concentrated anti-diphtheritic serum, and at another point 10 c. c. of the anti-streptococcic serum. The following day all symptoms were found to have been much relieved, and I believe there has been no subsequent arrest in the improvement. The mother contracted the disease, but one injection of 3,000 U was followed by immediate arrest and rapid disappearance of the symptoms.

More important than any other advice which can be given relative to the practical application of this treatment is, *administer the antitoxin early*, and repeat within six to ten hours if the first injection does not give an easily appreciable improvement. If we adopt the plan of very early injection of the serum in all cases, some non-diphtheritic ones may possibly receive the antitoxin, but I am unaware that any bad results have followed such a mistake. On the contrary, if we delay the injections for any reason whatever, some cases of diphtheria will attain a considerable degree of development before they are effectively attacked, resulting in prolongation of the illness and a higher mortality.

The question, not only of the use of antitoxin, but of its early employment, should be agitated upon every suitable occasion until the profession is perfectly convinced not only of its value, but well acquainted with the details of its administration. The first injection should be given as soon as it is suspected that the case is one of diphtheria. As a rule, it is better not to wait for a bacteriological examination. Upon this point I am not entirely in accord with prevailing practice, as I believe that the clinical evidences of diphtheria should be relied upon in the early stage of the disease rather than a negative bacteriological report. There are several reasons for this. As yet, much of bacteriological work yields imperfect results because of inexperience, carelessness, and the many and great difficulties attending research of this abstruse character. It is not rare to receive a negative report upon a first examination, subsequent cultures demonstrating the presence of the specific organism. It is also possible to fail to discover the Klebs-Löffler bacillus in the secretions of the throat, but to find it in the nasal discharge. These facts alone are sufficient to show that if we are guided in our use of antitoxin by bacteriological evidence only, the institution of the treatment may be at times unwisely delayed. In other words, a single bacteriological examination cannot be accepted as absolutely determining the nature of the case in every instance, and a negative result should not be permitted to overrule the clinical evidence. You will, I hope, not regard these statements as intended to reflect unfavorably upon bacteriology in its relation to diphtheria, for I highly esteem it.

Many objections have been raised against the employment of the diphtheria antitoxin. The contention that it is injurious, or in any degree a disturbing agent, has not been supported by facts. Some little disturbance, especially cutaneous, has very infrequently resulted from its use, especially from the weak antitoxin first produced, and was probably due to the large quantity of horse serum employed in relation to the number of units, or to certain preservative agents. In all of my cases I have noticed symptoms clearly attributable to the antitoxin but once, viz: an eruption of innocent character beginning at the point of injection. The antitoxin now employed is of such an excellent quality, and contains, in relation to the number of units, such a small quantity of serum, that the question of bad results from its use may be safely dismissed. The statement one so frequently hears respecting its power to cause albuminuria seems to be without foundation. On the contrary, albuminuria is an almost constant attendant upon active diphtheria, and is generally promptly diminished by the administration of antitoxin. Many times I have found the quantity of albumin diminished one-half or two-thirds within twenty-four to forty-eighth hours after the first injection. I have also repeatedly examined the urine of immunized persons without once discovering albumin; but in respect to this, it must be confessed that the small number of units usually administered for immunizing might not be sufficient to produce this result. Some homœopathists object to the antitoxin treatment because they think its action is not according to *similia*. While I do not propose to argue that it is, there is certainly much of *similia* in its selection, and of *contraria* in its action, which was at least Dr. Hering's explanation of the selection and action of homœopathic remedies. But even if its action is in no way related to homœopathy, the objection is puerile. As Homœopathy displaced other therapeutic systems, it in turn may, especially within limited spheres, be supplanted by more recent methods. There are some persons, however, who would have us believe that therapeutic progress ceased with Hahnemann. What his therapeutics might have been had he lived fifty years longer is past surmising ; but one thing is certain ; he did not occupy one position very long.

Such feeble objections as that "many of the cases treated with antitoxin are not diphtheria," etc., are scarcely worthy of consideration. It is true that the bacteriological method has enabled us to include some cases which would, if clinical observations only were employed, be excluded ; but at most this could affect the mortality percentage but a little. That failures result from its use no one will dispute, but the failures are in nearly every instance clearly due to a violation of those rules of guidance laid down by every expert who has written upon or taught this treatment. Failure is due to the neglect to begin the treatment until irreparable injury has been done the tissues. Another prominent cause of failure, and one which I do not think has been emphasized, is neglect to continue the antitoxin simply because the pharyngeal exudate is disappearing or has disappeared. The disappearance of the exudate does not, in my opinion, indicate that further injections are unnecessary. I now continue to administer 1,000 U each twenty-four hours, or at least during each forty-eight hours, until the general condition of the patient is entirely satisfactory, regardless of how clear the pharynx may be.

There is no more important fact to be kept in mind than that diphtheria is a mixed infection ; and in some cases the accessory, which is usually essentially a streptococcic infection, outruns the Klebs-Löffler infection and becomes the important factor in the case. When this accessory infection develops rapidly it results in the development of those cases which defy the diphtheria antitoxin, and sometimes in a comparatively early stage of the disease. The antistreptococcic serum should be administered to these cases, along with the diphtheria antitoxin. I have called your attention to a case of this kind. While excellent results are occasionally observed as late as a week or more after the initial developments of the disease, we cannot count upon them as probable.

When the diphtheria antitoxin shall be considered more from the standpoint of prophylaxis than as belonging to curative medicine, it will be administered more often in the earliest stages of the disease before the deadly toxins have disorganized the blood, left a necrotic tract in the tissues, and rendered incapable forevermore the sensitive nervous elements which preside over the most delicate and vital functions of the body. He who waits until this stage has no reason to expect favorable results from any treatment. While the antitoxin will save the tissues if early and properly employed, it can never restore a single cell.

My advocacy of the antitoxin treatment is based upon my reading of the ablest clinicians the world over, as well as upon the ample personal experience referred to. The statistics relating to this subject are so extensive, so convincing, so unanswerable, that I am at a loss to comprehend how the well-informed and unprejudiced man can remain unconvinced. There is not another item of practice in modern therapeutics in support of which such an immense array of real evidence can be marshalled—evidence which will bear the bright light of scientific observation. You cannot bring together a tithe of the same character of evidence in favor of phosphorus as a remedy for pneumonia, of rhus for rheumatism, or of any other remedy for the treatment of any disease-condition known by name, or for any group of symptoms, that we possess in favor of the diphtheria antitoxin as a remedy for diphtheria in its early stage. It is the most brilliant, towering fact of modern applied therapeutics, standing out boldly above every other fact, and which it is easily possible for any one to prove to his entire satisfaction. If this be true, some will ask, "Why do a few men, recognized as honest, able and painstaking observers, fail to get results which enable them to give to this treatment their approval, and others oppose it without a trial?" In reply I have to say that more than nine out of ten of the recognized clinical authorities of the world give it their unqualified and enthusiastic commendation. Those who have had unsatisfactory results have used it but a few times, and usually imperfectly. Do you know of any other subject in medicine, theology, law, politics or general literature, which can marshal the same per cent. of support? When all good and able men agree respecting the practical value of Homœopathy, as to the advisability of free trade or protection, the interpretation of Browning, the merits of the Anglo-Boer war, expansion, or as to whether a gentleman should turn up his trousers or not, we may expect unanimity respecting the value of the diphtheria antitoxin in the treatment of diphtheria, and many other things. Some men have what we might express as a kind of hereditary title to their opinions upon certain subjects. How many of you are homœopathists because you thoroughly investigated therapeutics and determined it to be the superior system? How many of those who antagonize the Homœopathic school know practically anything about it? Scarcely one. No! we are usually this, and that, and the other, because our fathers or friends or preceptors were. Not one man in a hundred is anything as the result of elaborate, painstaking investigation, the while preserving an unbiased mind. And this is especially true of men who face some great revolutionizing innovation like the antitoxin treatment of diphtheria. Man is partisan or antagonistic by nature (and some of us have a terrible amount of nature); and if he does not possess the hereditary title, so to speak, to properly shape his position, when he begins to think for himself he finds, if fearless in introspection, that growth in partisanship is usually more rapid than growth in knowledge.

In conclusion, I desire to say that I have prepared a short paper, that I might not encroach too much upon your time for discussion. If I have treated my subject in a very general and enthusiastic manner, rather than in a cold, scientific vein, it is for the reason that I am convinced that the antitoxin treatment of diphtheria has passed the experimental stage—that it is a sound, well-established practice, which requires only that it shall be brought forcibly to the attention of those physicians who have as yet employed it improperly or not at all. To any who may consider beginning its use and seek information, I may say that there is much of importance relating to dose, frequency, the care of the syringe, the details of injection, etc., all of which must be mastered in order to attain a high degree of success. I have treated of these details in other papers; and many recent writers, especially those who treat of children's diseases, go into them fully.

DISCUSSION.

Dr. G. B Rice. Our distinguished guest Dr. Goodno in his interesting paper on antitoxin has without doubt voiced the sentiment today of the majority of the members of the medical profession; but there is still a minority of doubters most of them I think members of our particular school. A little less than two years ago, it was my privilege to read a paper on "Antitoxin in Diphtheria" before the American Institute of Homœopathy. Among those who discussed it were three men of national reputation who took the negative side of the question, and from their remarks I wish to give a few brief quotations.

One of them said: "Are we ready to abandon Homœopathy for the serum treatment? That is the question at issue. I am not prepared to take that stand, I think that in the next few years it will be a dead issue."

He then quoted from Dr. Winter's article in which he says, "antitoxin has been demonstrated at the Willard Parker Hospital to be an absolute failure."

Another speaker said: "I will admit that antitoxin is immensely superior to any treatment of the Allopathic school, but I have no use for serum therapy in diphtheria or anything else as compared with

Homœopathy." He further remarked: "You believe in Homœopathy or you believe in something that is not Homœopathy. I stand by my flag and practice by it. I have no use for serum therapy."

Another gentleman and a former president of the Institute, remarked with emphasis: "There is but one road to travel, namely, that surveyed and built by Hahnemann, to give the remedy which corresponds most nearly to all symptoms: no gargles, no swabbing, no caustics, and no specifics."

Now, members of the Society, as these gentlemen have stated we must face this issue squarely. It is not as has been predicted a dead issue by any means. It is our duty to restore health in a mild, prompt, and durable manner. If Homœopathy can cure diphtheria with more certainty than antitoxin, we want to know it, but if it cannot, we may still be Homœopaths according to the definition adopted by the American Institute and use antitoxin. How are we to know this superiority of the Homœopathic treatment in diphtheria? It can only be shown by clinical demonstration and demonstration made in the light, and by the aid, of modern scientific methods.

It is not enough for Dr. Allen or Dr. Custis or Dr. Shelton to say with eloquent tongue, I believe that Homœopathy is superior to antitoxin in the treatment of diphtheria. We want to know why they believe this is so. Can they give us a series of a large number of consecutive cases treated by Homœopathy with a recovery of twelve per cent? Can they show one bit of evidence which would satisfy an impartial observer that our method is superior to any in existence? This is only one of the many issues which we must face. It is all very well and it sounds patriotic to say, I will stand by the flag right or wrong. We may do this but our sons will not unless we show that we are right. Show it not by assertion but by demonstration. We have but few contagious hospitals and those we do control have not been utilized for this purpose to any extent.

So the situation is plain, we must use methods in the treatment of the sick which present the best evidence of curative power, and although Homœopathy may be superior to antitoxin in the treatment of diphtheria, I hope from the bottom of my heart that it is, yet this fact has not been demonstrated. We stand before the people as physicians not as Homœopathists. The first is the higher calling.

Dr. W. T. Hopkins. One point occurs to me which I have not yet heard mentioned this evening, and that is in regard to the dosage. I believe that the ordinary practitioner is too sparing in the application of this medicine. I think the dose is, as a rule, too small. Those of you who are familiar with the work of the South Department of the City Hospital of this city, are doubtless aware that large doses are employed with no ill results. I have seen many cases where small doses have been used, and they would be unable to show as large percentage of recoveries as the City Hospital can, and therefore have a larger mortality. I think we give too small a dose. The usual dose I believe is from 1500 to 2000 units, which I believe is altogether too small. I think 3000 units should be the minimum dose, and in laryngeal cases I should give even larger doses, or repeat the smaller dose quite frequently.

Dr. Frank E. Allard. I have been quite interested in this paper, because I have had quite a number of cases of diphtheria and not a little experience with the disease for the last 7 or 8 years. I should like to ask the members of the Society, if, in following out these cases, after being treated in this manner, they observe any bad results. Personally, I have not had a great experience with antitoxin. Many of the cases coming under my observation have been treated at the City Hospital, and the results of the treatment in quite a number of cases have been unfortunate. One case sent to City Hospital last month died of Erysipelas of the face. A lady about 55 years of age, who complained of general malaise, said she had had grippe for two weeks. She had been able to be about the house during the time. The throat had been slightly sore, but there appeared to be no fever, simply, this general feeling of depression. I examined her throat very carefully, found a slight redness, and the nasal cavities showed a slight discharge, which I suspected to be diphtheritic. I advised her to go to the City Hospital. She came from a good home, but I did not wish to expose the people in the house. She was treated with antitoxin at the City Hospital, and three weeks afterwards died of Erysipelas of the face. At the same time I made a culture from throat and nares of a small lad seven years old. Found the bacteria. In this case I used a spray for the nares and the usual Homœopathic remedies. He did not take his bed and came out nicely.

Many cases have been sent to City Hospital and have come out badly. Many cases would undoubtedly go unrecognized were it not for the culture. I think statistics are very misleading in regard to this disease. Many cases are reported as diphtheria, where cultures have not been made. It is my practice to make a culture, and verify if possible.

As to the harmful results of the treatment I am somewhat in doubt. I have seen quite a number of cases come out badly at City Hospital, especially the results of the eruption which has followed some of the cases, perhaps due to improper administration. The blood-vessels are hermetically sealed, and it seems to me that we are introducing into these vessels certain poisonous toxines which might cause remote effects along this line and there should be a great amount of work done in regard to this point. I should be glad to hear from Dr. Goodno as to the remotē effects, the after results, of this treatment.

Dr. John F. Worcester. The subject of Dr. Goodno's paper is a most intensely interesting one. It is certainly very interesting to me. I am one of those men who is a Homœopathist by heredity. I have had the feeling that I did not know what step to take in regard to antitoxin. I have had a number of cases of diphtheria in which I did not use antitoxin, and up to two or three months ago every one recovered. All these cases were tested by culture, and many of them were apparently virulent cases. I expected many of them to die, but most of them got well. I feel at the present time that if I had a case of diphtheria I should certainly use antitoxin. I think that it certainly has done a great deal of good. Whether it is better than our old treatment is a very difficult matter to tell, but I believe that our duty to the public is to use what we know is doing good.

I was much amused some time ago at a meeting of the State Board of Health. One of the physicians present said that in a certain institution there was a child who had diphtheria, and as a good many Homœopathists were connected with the institution, there was no antitoxin used. The two matrons came down with diphtheria. Cultures were then taken of all the children in the place. There were 25 to 30 positive cultures, and a number of doubtful ones. No antitoxin was used. One of the 25 cases developed diphtheria, and the three that did develop it got well. It was said that the reason for the good results was because the ruling body of physicians happened to be Homœopathists.

I should be very glad indeed if somebody could tell me a sure cure for diphtheria. I have had one death from it, and that was enough for me. The child was apparently doing well, when the heart gave out. If antitoxin had been used I should have felt that all was done that could have been done. I feel that the next case I have I shall use antitoxin.

Dr. J. Herbert Moore. My experience has been very limited with antitoxin. Before the days of antitoxin, and before the Metropolitan System of sewerage was put through, there was a very severe epidemic of diphtheria. I am sorry to say that my experience has been much like Dr. Worcester's. My statistics were disappointing. I have, however, demonstrated to my own satisfaction that in cases of so called malignant diphtheria antitoxin will do a great deal. I have also seen cases recover under the Homœopathic remedy. I have seen cases recover and very satisfactory results follow when the antitoxin was used early. Now I have seen that myself, and while I cannot tell Dr. Worcester an absolute cure for diphtheria, I believe that the surest remedy we have is antitoxin. I believe that it is absolutely criminal of any Homœopathic physician to withhold the antitoxin treatment from a patient suffering from diphtheria. Our people call us to give a remedy that will help their children if we can. If antitoxin can do it I believe we should use it. I believe that Dr. Goodno has not gone into the modus operandi of dosage. I believe we should consider the modus operandi of our own drugs also,—the marked effect upon the system of the Homœopathic remedies, such as Phosphorus in Pneumonia and Rhus in Rheumatism. I believe as Homœopathic physicians it behooves us to examine more fully into serum therapy. It seems to me that from the standpoint of a comparative modus operandi of the action of drugs, as we study this subject scientifically, our serum therapy goes more and more in accordance with similia.

Dr. H. E. Spalding. I have been very much interested in this paper of Dr. Goodno's. I like to hear such a paper. I think he believes everything he says. I cannot believe that the average Homœopathic physician has in years past before the use of antitoxin, lost 25% of his patients. If it had been that way with me I should have felt as though I should never want to treat another case of diphtheria. Now personally I use antitoxin wherever my patients want me to use it, but I always say that unless they will carry out my Homœopathic treatment just the same I will not take the case.

Now, the statement has been made that antitoxin is only criticised amongst the Homœopathic physicians. I take more old school papers than I do Homœopathic magazines, if anything, and I find some very decided criticisms of antitoxin. I believe the statistics are somewhat highly colored. I had a patient go to the City Hospital. The child was very sick with Croupous Diphtheria. As soon as I stepped inside the door I noticed the strong odor of diphtheria. There had already developed a stenosis. The next morning when I arrived the child had taken antitoxin and heroic treatment. It died of pneumonia. You will find a large number of people walking the streets of Boston with Klebs-Löeffler bacilli in their throats. I always take a culture if there is the least suspicion of trouble. I have in mind a case of a man with a follicular tonsillitis. I took a culture and it came back negative. Again I took a culture and it came back positive, and the man was almost well. I must take a negative culture or that man would have to remain at home a long time. I tried again but a positive culture was the result. That man was kept in the house ten weeks from the want of a negative culture. Those associated with him finally went to the Board of Health. They took a culture which turned out to be negative, so that the man finally got out. I think possibly there are some mistakes made. I think we should look at both sides of the question. I do not think the results are as perfect with antitoxin as they are said to be.

Dr. F. L. Emerson. I think Dr. Perkins could tell us something about this matter of test cases which we should know.

Dr. N. R. Perkins. It should be known that the Board of Health is willing at any time to make a test case at the request of the physician. If they are not able to get a negative culture they are willing at any time to make a test case if the physician will simply make the request.

Dr. Geo. A. Tower. I am sorry to say that all my cases do not get well. In the last three years I have lost three cases of malignant diphtheria, and two of these cases died under antitoxin. The third one died without antitoxin. The course of the three cases was about the same. The one without the antitoxin died in about the same way as the ones who did take it. Personally I use antitoxin, but I am a little in doubt of it. I am inclined to think that many cases get well without regard to what remedies are used.

Dr. John P. Sutherland. I am not prepared to give unqualified approval to antitoxin. I believe that antitoxin pure is non-medicinal. That seems to be pretty well established, because the pure unadulterated antitoxin serum can be injected into animals without exciting any unfavorable results. If it is a fact that antitoxin serum as sold to-day is pure, then the antitoxin treatment appeals to me, but unfortunately the commercial product is not pure. On account of the statistics we have in regard to the favorable results obtained by its use, I cannot help feeling that we ought to use it. In three years' time I have had three cases of diphtheria, and I should be very glad to live a good many years and not have another case. The reason I am afraid of antitoxin is this, all the antitoxin on the market to-day is put up for commercial purposes. It is preserved by something, and I am inclined to think that the ill results are chiefly due to the preservatives that are used and not to the antitoxin itself. When it was first put up I used it, it was fresh, and I had confidence in it, but to-day I have not. I believe it is given away gratuitously to-day. In its pure state it is, as I have said, non-medicinal, and I consider it perfectly safe to use. On that account, however, we cannot claim that it is Homœopathic, because, if antitoxin serum cannot produce medicinal effects, we cannot get any similia. I do know that a great deal of antitoxin serum is used that is manufactured simple to make money. Some preservative is used, and I should be afraid to use some of the commercial serums for fear of getting too much of the preservative, getting too much carbolic acid or something else.

Dr. Goodno. I should like to say to Dr. Sutherland that the serum is given away now to all in the large cities who are unable to buy it.

Dr. Sutherland. Why not to all?

Dr. Goodno. Of course there must be a limit to this giving. At the same time, I have confidence in the people who prepare this serum, but I do not have any feeling on this point at all. In over 200 cases I have had no bad effects from the antitoxin, and I believe that my experience is the same as others, so it seems to me that that point can be dispensed with.

Now, as regards statistics. We continually hear that statistics do not count. There is only one source from which we can gain knowledge, and that is from many cases that have been diagnosed as diphtheria by bacteriological examination. Now, I believe that the gentlemen who use antitoxin as a class are as able to cure diphtheria as those who do not use antitoxin, so I think we can say that we are all honest, all good observers.

In regard to this mixed infection. I have seen quite a number of cases similar to the one I mentioned in my paper. I have seen several cases of erysipelas. I am treating with Dr. Roberts in Beverly, N. J., a case of this sort. Patient exceedingly ill, intermittent pulse, erysipelas spread over face, found evidence of diphtheria, and an abundance of streptococci.

As to the remote results of the antitoxin, I have noticed no bad results from it. I have not seen any more paralysis or any more of the remote results of the disease than before I used the antitoxin, so I do not feel that it has any remote or bad effects. We ought to expect it, however, as many cases are more susceptible than others.

A good deal has been said about the statistics of certain hospitals, more from municipal hospitals perhaps than others. These cases are mostly received late, generally after four or five days, then the results are bad, not only is the disease well developed, but the patient has gone through the exertion of the removal to the hospital.

As to dose,—as a rule, I think the tendency is to give too large doses now. The dose, however, must be in proportion to the intensity of the attack, and we have to estimate it somewhat by the stage in which we get the case. I have never seen a case where 1500 to 2000 units did not act well, and where it has gone on longer, from 2000 to 3000 units. I have not discovered that laryngeal cases require larger doses, in fact, I am not sure but that they require less. In croupous diphtheria the disease is locked up in the larynx, where in the pharynx it is more general. During the past winter I have seen three cases where stenosis was marked before antitoxin was used, and all three recovered.

As to other treatment, I do not use any. Do not advise it. I do not often cleanse the throat and nose if I see the case early enough. Of course I recognize the value of cleansing the parts if it can be done without any bad results.

Now let us come down to the practical point. Theories are of no value. It makes no difference what Dr. A. or B. or C. thinks; it is experience that counts. For my part, I shall go on using antitoxin. All my cases were clinical cases, all were well developed cases of diphtheria, and until Homœopathy or some other 'Opathy shows better results, I shall go on using antitoxin. Up to the present time nothing has shown itself to be any better. Let them show it if there is anything better. All this generalizing, "I have not lost many cases", "Theoretically I do not believe in it", all this is very exciting, but what we want is facts. How many cases have we treated? What are the results?

A METHOD OF INFANT FEEDING.

BY W. F. WESSELHOEFT, M. D., BOSTON, MASS.

The simple plan, dignified on the program by the title of method, for feeding infants I should not have had the presumption to present to you, had it not been for the suggestion and insistence of your chairman; and I should have resisted his courteous urging were it not that there are one or two points in this way of feeding with entire cow's milk, which it is perhaps worth while to emphasize. Upon them does its success depend, and they are as applicable to all other modifications of milk as they are to this one.

We are all agreed as to the necessity of having everything which comes in contact with the milk sterile. With all the utensils used, this is most easily accomplished by scalding with boiling water. Milk as it comes to us, unless we are favored by being very near a scource of supply, or obtain it from a milkman who milks into sterilized cans and into whose soul has entered some respect for cleanliness, is always changed to a considerable extent by fermentation. This renders it less easy to digest, although, unless these changes have gone on too far, not impossible. These changes have been carefully and elaborately studied, and methods are in vogue to limit them with more or less success. We have, however, to deal generally with milk which is very different from that which goes sterile from the cow's udder directly into the calf's stomach. I have had as great disappointments in the condition of milk supplied by those supposed to be most reliable, and who often arrogantly assume their milk to be perfect, as I have had in the ordinary Boston milk. Most people in this city have to look to the latter for their babies' food, and fortunately, with this usually one can get along successfully.

Enormous work, and work of the greatest value, has been done in the last fifteen years in regard to the artificial feeding of infants. Nothing can be of greater interest than to see a baby thrive though cut off from its natural nourishment, especially in this country where many of our mothers are absolute failures as milkers. Greater success has been the result of more definite knowledge of the requirements of the infants, and of the ways of modifying milk to meet these requirements.

Analysis shows the relative amounts of the different materials in mother's and cow's milk. Different modifications of cow's milk with water, cream, sugar of milk, lime water, etc., have been made to more or less advantage, the aim being to obtain, as nearly as possible, a food having the chemical analysis of mother's milk quantitively and qualitively. In the first years of experiment along this line the system was so elaborate and required such accurate care and attention, that, unless done in some laboratory, especially equipped for it, " modified milk ", so called, was a very uncertain substance. Now, in general, simpler methods obtain, which can be carried out in many households. There can be no question that the simpler the method, and the fewer the manipulations necessary to carry it out, the greater probability there is that what is essential will be done. Comparatively few families can command the services of a trained children's nurse, and usually whatever is done is done by an over-worked mother, or by an attendant of at least not striking intelligence.

The simplest method, and one which I as readily and confidently apply as any other, is feeding with entire cow's milk, modified only by the addition of enough milk-sugar to bring up the sugar to the amount in mother's milk, and letting the baby get it very slowly.

The constituents with which we have to deal practically in milk, are water, casein, milk-sugar and fat. Those mineral salts, which leave an ash on burning, are very slight, and we can leave them out of consideration.

The water in mother's and cow's milk is practically the same in amount. If mere dilution is practised, to get the proper amount of solids a much larger amount at a feeding is necessary, and we know that relatively the stomach of an infant is very small. The sugar is relatively deficient in cow's milk, and this can easily be corrected by adding about 12 grains to the ounce. For this purpose I make a little measure out of a pill box wired on a stick. The fat is about the same in both. The casein is relatively more in cow's milk, and what is of as great, or more, importance, it is of a character that acts mechanically very differently. It is this substance that presents pretty nearly all the difficulty in feeding a baby with cow's milk or some modification of cow's milk.

As soon as milk reaches the stomach the casein is coagulated. Here is the great difficulty. From cow's milk the casein coagulates in a heavy thick mass, while from mother's milk it coagulates in fine snowy flakes. Digestion is the action upon the materials ingested by the juices secreted in the digestive tract. This is a chemical action, and to go on to the best advantage the material ingested must be finely subdivided or be in solution. This is a general rule applying no less to infant feeding, or infant foods, than to all foods and all feeding. Those things which are indigestible or difficult of digestion, are, in general those things which are either not readily soluble or not readily separated into divisions of minute size.

In every chemical reaction to get the best effect the material acted on by re-agents, should be in solution or pulverized. If the material is in solid form or in pieces of large size, only the surface is open to the action of the re-agent. The operation is thus greatly retarded and interfered with. It is almost entirely this condition of the coagulated casein of cow's milk which, I believe, makes it difficult to digest.

When I was a student our instructor in Pediatrics, one of the best known of the original investigators in the field of infant feeding, used to show this mechanical difference in the casein of cow's and woman's milk. He would take two test tubes, one containing cow's, and the other woman's milk, and to each would add a little hydrochloric acid, which is the free acid of the stomach. The casein of mother's milk would coagulate in fine flakes throughout, while the casein of cow's milk would coagulate in a heavy more or less solid mass. That seems a very convincing experiment; but if the operation is reversed a different result is obtained. If the milk is added to the acid solution, drop by drop, it can and will coagulate flake by flake like mother's milk, and an entirely different condition is the result. It is this principle which I wish to emphasize. If the milk is fed very slowly it can be readily digested.

This slow feeding so that the infant gets the milk drop by drop can be accomplished best by stuffing the neck of the bottle and the nipple with either a surgeon's sponge, which is expensive as it must be frequently renewed, or with absorbent cotton which is cheap and can be thrown away. In this way it is usually easy to feed an ordinary baby. I have fed very feeble babies that could not make the effort to suck, with a glass medicine dropper, directing the nurse to let the baby have the milk drop by drop.

Years ago I copied from an article by Dr. Rotch, rules which give us fairly definite data at the different months of infant life in regard to the amount of food to be given at a feeding, the intervals of feeding, the number of feeds in twenty-four hours, and the whole amount to be taken in twenty-four hours. This schedule which is familiar to all I will not rehearse, but I have found most babies keep pretty closely to it. The milk should of course be warmed to blood heat, that is, warm to the lips.

To sum up, I believe that to use cow's milk of a good quality, modified only by the addition of 12 grains of milk-sugar to the ounce, and fed very slowly for the purpose of insuring flocculent coagulation of the casein, is by far the simplest and as good a way as any for feeding a baby. My rule is to insist that the baby does not get the entire quantity, be it one ounce or eight ounces at a feed, under twenty minutes. The nipples, sponges and bottles are kept scrupulously clean, by being washed before and after each nursing, and are placed on a shelf sacred to the baby in the bath-room if possible. The milk is mixed with the sugar and warmed in the feeding bottle, which is stood in warm water and heat applied until the milk is warm to the lips. The sponge is then crammed into neck and nipple, and the baby fed not under twenty minutes by the clock. A little difficulty is at first apt to occur with the sponge, but one soon learns to handle this so that the milk escapes pretty steadily. The nipples I think best are the straight Davidson with small holes, as these can be turned inside out and cleansed readily.

With the above plan I have never had but one failure in feeding a baby I had from the first, and that was a most feeble product of weak and sickly parents. This baby was happily saved by a wet nurse. I have seen many an infant suffering from vomiting and diarrhœa, fed in this way, turn right about face, and, from an emaciated and wretched little being, become the pride and boast of the family, which position it is the natural right of a healthy baby to hold.

DISCUSSION.

Dr. W. T. Hopkins:—I have been very much interested in Dr. Wesselhoeft's paper. The method is perhaps somewhat novel, although the mixture is certainly not new. There is great mortality in the infants of the poorer people who pay little attention to directions which are given as to modifying it. They give the baby such milk as is accessible. If the mother is able to secrete it, all well and good, if not, the child is very apt to receive the ordinary milk about town and delivered *finally*. As to the suitability of this milk to the infant digestion, I cannot quite agree with Dr. Wesselhoeft. It seems to me that the efforts of Dr. Rotch, whom he has mentioned, have been productive

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of good results. The effort to produce a milk mixture which resembles in composition chemically the mother's milk, seems to me to be the logical one, and the nearer we are able to approach that, the greater our success in infant feeding. I think there is no question whatever that milk slowly administered is more readily digested than that taken quickly. I think we are all familiar with the prescription to drink milk with a teaspoon, and the result is the same as Dr. Wesselhoeft claims, the digestion is better, the curds are smaller, but I do not believe that the casein of the cow's milk will coagulate into as fine curds as the serum globulin of the human milk, a fact which I think is generally accepted. It has been more recently emphasized by this same Dr. Rotch, who erroneously credits the discovery that the serum globulin, or whey portion of the milk, will more readily digest and will nourish babies when the casein cannot be taken successfully, to a much more recent discoverer than is right. I think, referring to that point at a recent meeting at the American Society of Pharmacy in New York two months ago, Dr. Rotch gave certain extracts from an article which has since appeared in the Boston Medical & Surgical Journal, which gives a series of experiments in infant feeding, using the whey albumen. He said he had found the value of this method of feeding. I think, unless I am mistaken that ——————— of Vienna has been using this method for 25 years, and it seems to me that we are rather late in arriving at this conclusion now. I think it is perfectly true that the casein in the milk is the difficult problem in feeding. If this can be reduced to more nearly the percentage in which it occurs in woman's milk, the infants will thrive better. I think that milk that comes the nearest to mother's milk will agree with the infant better than whole cow's milk, fed however slowly. Whereas mother's milk contains a very small percentage of albumenoids, cow's milk, contains a very large percentage of casein. Now, if we can reduce the amount of caseinogen by substituting for that the whey-albumen, which is a serum albumen, and more nearly like the human milk, it will give us a mixture more suited to the infant's stomach, but I must admit, that while desirable it is not always possible, as it is a very complicated procedure. Most people are either unable or unwilling to take the trouble to do this,—therefore, such an effort is ordinarily a failure. Some physicians have disdained my advice, saying that it was too much work for the family physician to figure out the percentages, and to write down specific directions for the future. One of these physicians during this past week said, "I am giving a child Eskay's food because it is so much easier."

I think it is well to give any kind of food slowly to a child. When a child is fed at its mother's breast we do not need to regulate the flow of milk.

The composition of the milk as recommended by Dr. Wesselhoeft I do not quite endorse. As to sterilizing all the articles that come in contact with the milk, there is no doubt as to the necessity of that. As to sterilizing the milk, that is another question. Sometimes it is well to Pasteurize milk, but even that I do not think is advisable in all cases. I have seen some cases of scurvy which I think resulted from this. I think that the mixture of the ordinary modified milk is not a complicated process. I think if one keeps the percentage of the different ingredients in woman's milk and cow's milk in mind, it is a small matter to figure out the proportions of the different ingredients in the milk. I think it is not a complicated process, and if we are willing to study it a little, and practice it a little, we will find it comes as natural as to write a prescription for any other preparation.

As to the very small holes in the nipple, I think the infants require milk at different rates of rapidity, according to age.

As to children who have shown vomiting and diarrhœa, and rapidly recover after giving cow's milk, I would suggest that these cases are from deficient alimentation. I have seen cases develop vomiting and diarrhœa from deficient nutrition alone. Such an infant I would give more food.

Dr. Wesselhoeft:—I have nothing more to say except to emphasize the point I made before, viz: that in most of the modified milks, and in cow's milk, it is necessary to have the casein in the flocculent condition when it reaches the stomach.

SOME INTERESTING CASES OF TUBERCULOSIS IN CHILDREN.

BY D. P. BUTLER, JR., M. D., RUTLAND, MASS.

The fact that youth is generally considered an unfavorable factor in deciding the prognosis in a case of tuberculosis makes it all the more surprising that among such cases treated at Rutland during the last two years every incipient case in children recovered. From this result and from the favorable aspect of such cases now under treatment it seems that incipient phthisis responds to treatment at least equally well in children and adults. However, in moderately advanced cases youth does seem to be an unfavorable factor. Yet an interesting thing about these cases is the small amount of constitutional disturbance frequently accompanying advanced lesions. Two of the cases I shall read illustrate the degree to which this is true.

An interesting case is that of the baby Katie R., age at beginning of treatment seven months. No family history of tuberculosis, weight six lbs.,—less than at birth. Emaciated and old looking. Morning temperature was from 99.6° to 100°, afternoon and evening 100° to 105°. Pulse 110 to 140. Slight cough and blood streaked sputum were present. Dyspnœa was excessive. There was frequent vomiting, and sleep was very poor. On physical examination, chest was found well developed and of good capacity. There was slight dullness, *br. ves.* respiration and a few fine crackling râles at left top front and back. Tubercle bacilli were not present in the two examinations of sputum that were made.

The treatment was such as we should give an adult. The little patient was out doors six or seven hours a day sometimes in arms sometimes in carriage. The time was gradually increased to fifteen hours a day, and at night the bed-room windows were left wide open. Cold baths were given when the temperature was at its highest and when the condition of the heart permitted the cold pack was used. The diet was modified milk which during the time of the greatest stomach irritability was given iced. Treatment was begun in the fall and continued for a year and a half. From the start sleep increased, food was gradually retained but only after five months did the temperature become normal.

Fortunately it was possible to employ two trained nurses on the case.

The diagnosis of tuberculosis was made by several well known Boston specialists.

The change in appearance is remarkable. All constitutional symptoms and the chest signs have gone. The child is apparently well. No adult has had more vigorous treatment than this baby and the result seems to prove the wisdom of it.

Case 2. Geo. G., age 4 yrs. Father has pulmonary tuberculosis. Two years ago child had mumps followed by an orchitis that did not yield to treatment. An inflamed area on outside of scrotum broke down, a persistent purulent discharge following. After some weeks of local treatment the right testicle was pronounced tubercular and was removed. The wound did not heal but discharged continuously and another attempt was made to remove tubercular tissue but without success. The sinus has remained and has discharged steadily for two years. During this time the rise of temperature has been but slight.

The child is anæmic and under weight but no other tubercular focus can be discovered. Suspecting there might be further involvement of the genito-urinary tract, a careful examination has been made but with negative results. A forced diet with large quantities of eggs and milk has been instituted and the little patient is out of doors practically all the time. The appetite, weight, strength and general appearance have improved. The discharge from the sinus has lessened a little and is being treated by injections of iodoform and sweet oil. The internal medication up to this time has been Silicea 3d.

Case 3. Mary L., age 13. Father asthmatic, aunt and brother tubercular. Has always lived a more or less out-door life in Rutland. Has had cough and expectoration for four years. She has slight dyspnœa. A. M. temperature is subnormal, P. M. 100° to 102°. Hoarseness, night sweats and chills are present. Appetite is poor, stomach is weak, and diarrhœa has been present for four years. Heart is weak, but general strength is fairly good. Feet swell at night.

On physical examination the larynx is like that of a child five or six years old. Ulcers are on epiglottis and the vocal cords thickened. Dullness, *br. ves.* respiration and fine moist râles in left lung to line of nipple, and over same relative area in back. Dullness, *br. ves.* respiration to a less degree and a few sibilant râles in right lung to the third rib. Abdomen distended and tender at times. Tubercular disease of left middle ear. Tubercle bacilli are present in the sputum. The patient is now under treatment in Rutland. Her parents say she feels as well as she has for the last five or six years although the bowel symptoms have been growing worse lately.

In this case we hope for nothing more than relief of some of the troublesome symptoms.

As regards treatment, she is having absolute rest out of doors, selected forced diet, cold water baths night and morning and at any time the temperature rises over 102°. The abdomen is bandaged and the patient has daily high enemas of hot boric acid solution. The ulcers on larynx are treated with lactic acid. Internally Iodoform, Arsenicum Iodide, and Silicea have been given at different times.

Under these measures the temperature is lower, the bowel pains and swelling have decreased and the character of the stool has improved. The patient till within a month has entered into the usual work and play of girls her age. In this case the bodily vigor is out of all proportions to the severity of the tubercular lesions.

Case 4. Rosie G., a Russian Jewish, age 12. Environment and occupation bad. Personal habits unclean. Cough and expectoration for six months. Dyspnœa on exertion and prominent chest pains. Slight P. M. rise of temperature. Pulse 110. Appetite poor, distress and occasional pain after eating, bowels constipated, ten lbs. loss of weight, strength fairly good and tubercle bacilli present in sputum.

On physical examination,—chest fairly well shaped, good breathing capacity, dullness, *br. ves.* respiration and whispering bronchophony at right apex to second rib. Heart was hypertrophied.

Patient entered on the usual routine of out-door treatment. The digestive tract became normal after a few weeks and most of the other symptoms except the dyspnœa disappeared. Nux Vom., and Bryonia were the medicines used. Weight was gained rapidly. At the end of the first month the patient spit up a few drachms of blood after hard coughing for several mornings. This symptom disappeared and the patient continued to gain. At the end of the second month the appetite suddenly failed, there was intense pain after eating and a rush of blood to the head. In a few minutes there was violent vomiting of the recently eaten dinner followed by a large quantity of deeply blood-stained water. Acute tenderness on pressure at the pit of the stomach was present. Gastric ulcer was diagnosed and the patient was treated accordingly. The case yielded to treatment and went on to complete recovery. The case was discharged after eleven months' stay apparently well. As the patient has gone to work as cash girl in one of the large stores in Boston we can expect nothing but a relapse. The case is interesting as presenting hæmoptysis and hæmatemesis in the same case.

Case 5. Jennie L., age 12 yrs, pale and poorly nourished. Mother and two sisters died of phthisis. Patient had lived with them during their illness. Cough and expectoration for six months. Dyspnœa prominent with occasional chest pains. High temperature in P. M. occasionally, appetite poor, distress after eating and constipation,—and tubercle bacilli are present in the sputum.

Physical examination showed right lung involved to the fourth rib, and slight consolidation at the top of the left lung. The patient improved slightly for two months, became stationary and then lost ground. It became a question of continuation of treatment. Under these conditions tuberculin was used. The initial dose was .002 given in the leg. It was followed by the characteristic reaction. The dose was gradually increased as the reaction warranted till a dose of .046 was reached. After a few weeks rest a new start was made with .010 and increased to the same amount as before. During this time there was no improvement in physical signs although the temperature and general health were better than in the great majority of patients with the same amount of lung lesion. The patient remains in remarkably good health and is not taking tuberculin at present.

In view of the cases which I have read and which are fair examples of the majority of cases we receive for treatment what have we to offer of an encouraging nature? This,—nearly every incipient case living an out-door life under medical supervision will recover. Of the other cases but a small percentage will recover. However, such treatment is their only chance, and if proper accommodations are at hand is better for them and better for the families from which they are taken.

To have success in local and special treatment we must have as the foundation, hygienic treatment, all those factors that will bring the power of resistance to toxic elements to their highest point. Every phase of tuberculosis must be treated constitutionally from the start.

Persistence through long periods of time is the characteristic required in the physician in this class of cases.

Children take the out-door treatment well. They are not hard to amuse and the life appeals to them. They do not worry about their condition and they trust you implicitly if you win their confidence.

DISCUSSION.

Dr. W. C. Goodno:—I have been interested in this good, sound paper. I believe we should first get the patient in good health, and then take care of his tuberculosis. I have been very much interested in treating tuberculosis with open air, etc. I have several cases that have been sitting in rooms during the past winter with windows wide open, continually in the open air. All that is necessary is to wrap them up warm and put them in a steamer chair. I have one man in mind at this moment, a brewer, his temperature was 104, with hemorrhages. He has been living on the top of his house during most of the past year. We arranged a place for him and protection against the wind, and he is there all the day long unless there is a storm or very decidedly bad weather.

SOME EXPERIENCES WITH MARASMUS AT THE SEASIDE HOSPITAL.

BY CARROLL C. BURPEE, M. D., MALDEN, MASS.

Unfortunately, the majority of the cases of Marasmus which come to the Hospitals and Dispensaries are decidedly far advanced ones. Most of them are cases occurring in the later half of the first year of infancy and previous to their being presented for treatment the disease has been gradually but most markedly advancing. I can not recall any condition where an infant is presented for medical care that is more advanced than in infantile atrophy. Holt says, that in his experience in four hospitals for infants, more than one half the deaths were directly, or indirectly, from this cause. "The tissues all through the body are pale and anæmic, the muscular power is most weak, and the whole system in a state of depletion. The liver is invariably enlarged, many times being twice its normal size, and fatty degeneration can readily be seen."

Most of these cases have a common history. At birth and until a month or two months of age the infant is fat and has all the appearances of being well nourished when circumstances arise which necessitate artificial feeding. Then the child's trouble begins, it commences to lose in weight and strength, first slowly, then more rapidly, regardless of the fact that every known form of infant food has been used, until, at last, the child is presented, usually at from 9 mos. to a year, to some dispensary or hospital. I have found that there are three classes of these cases:

First:—Those infants whose parents have large families, are ignorant, and who live cramped up in a room or two of a tenement house, with everything as unhealthy and unhygienic as can be imagined.

Second:—Illegitimate children whose mothers are from 14 to 20 years of age. Such children are usually boarded out or put in some so-called "Baby Farm," at least in a place where only the *financial* side is considered, where neither proper food nor air ever enters, and when not even a mother's instinct of the lowest order of animal life can ever surround this unfortunate infant.

Third:—Cases of a specific origin.

As to the treatment, the most important relates to prophylaxis, and this in large cities means placing *cow's* milk at the disposal of the poor where it may be obtained *pure* and *fresh*, and teaching and educating this class of people how to feed their children intelligently and simply, and how to *obtain* and *live* in an abundance of *fresh*, *pure air* at *all* times and under all circumstances. They must be taught that a child is not nourished in proportion to the bulk of the food he receives into his stomach. He is only nourished by the food he digests. In this connection it is important to note that in my clinic at the dispensary, this past year, over eighty-five per cent. of the mothers, who feed their children artificially, do not have their milk left at their door but purchase it from a neighboring store, which milk must be decidedly of low percentage of fat.

Here, I believe, is an opportunity for our philanthropists;—to establish milk stations in various sections of large cities where fresh, *pure*, *unadulterated* cow's milk may be furnished at little or no cost to the poor, where mothers could go, twice a day if need be, to get fresh milk which has been neither changed by chemicals nor by the atmosphere. Could such a charity be established, furnishing milk not only for the baby but for the ill-fed, poorly nourished *nursing* mother as well, we would have a lower death rate among infants, cholera-infantum and like summer troubles would be fewer, and, most of all, a healthier and stronger rising generation among the poorer classes.

In no condition that I know of, where the infant's illness is due to dietetic errors, will you get better and more satisfactory results than in the use of the *modified milk* in marasmus. If you will pardon me I desire to digress for the moment and say a word or two concerning this method of feeding. Doubtless, there are many of you here who look upon modified milk as, perhaps, a sort of fad, but after five years of practical experience at the Sea-side Hospital, at the Dispensary and in private practice, I feel it most imperative to observe that no *one food* has given me as *satisfactory* and *beneficial* results as has this. I do not mean the milk as obtained from the Walker-Gordon Laboratory, although this certainly is *ideal* (owing to its expense this is beyond the reach of most of the patients) but as modified at home according to the directions laid down by Holt in his most excellent treatise on "Infancy and Childhood." Consider modified milk not as a fad, or only as a theory, but put it into practical use in your own practice and I am certain that the results will be more than convincing of its utility, and it will prove of greatest benefit to your little patients.

In regard to giving modified milk in cases of marasmus it is most important that you give a milk low in *fats* and low in proteids (partially peptonized for the first few weeks), and relatively *high* in sugar. Starting with the lower percentages of fat and proteids they may be gradually increased.

Next to the modified milk I consider oil inunctions, twice daily, to be of the greatest importance, slightly warming the oil and then enveloping the baby in cotton. As the temperature in such cases invariably runs exceedingly low, 94° F to 98° F, generally about 95° or 96°, hot water bottles and an even temperature of about 100° should surround the child. Many times an incubator or some home-made affair, will have to be resorted to.

Many of these cases coming into our hands where so many different methods, artificial foods, and medicines have been previously tried and as a consequence the stomach in a most irritable condition, I have found stomach-washing to be of *great* value. To stop the vomiting in these cases rarely is it necessary to wash the stomach more than once and in the more severe and acute cases rarely have I had to do it, at the most, more than three times to allay this most annoying symptom.

In the majority of cases I have found Bovinine to be of great value in increasing muscle firmness, and strength. I have given it not only internally but also in the oil inunctions. Egg-albumen is another most important article of diet. In some cases I have used it in the form of *somatose.* Of this Jacobi says "somatose is one of the artificial preparations which deserves some credit; first, because of the absence of such nucleins as irritate the kidneys; second, because it is a genuine albumose, a teaspoonful of which contains as much albumen as is held in half an egg or three tablespoonfuls of milk.

The administration of cod liver oil in these cases will prove of no benefit, it is rather of a hindrance, for, as Rotch says, "it is only by a precise adjustment of the percentage of the fat in the food to the individual power of absorption that good results can be obtained."

As to medicines in this disease I take exceptions to the majority of the authors and I believe that with Homœopathic remedies much can be accomplished.

In this connection *sulphur* heads the list. Under this remedy you find that ravenous hunger, so characteristic of marasmus, especially at about 11 a. m. The child sweats about the head, particularly during sleep. The head is large in comparison with the rest of the body. The fontanelles remain open too long, especially the anterior one. The child clutches at everything, so hungry is it and tries to put everything, edible or not, into its mouth. The child looks *shrivelled* and *dried up*, especially characteristic of marasmus. The skin hangs in folds, and is wrinkled and flabby. In fact sulphur is a typical marasmus remedy. Another excellent remedy is arsenicum, and the calcareas are also of more or less pronounced efficacy.

In these cases the unfortunate outcome seems to be that the winter after the child has recovered from marasmus, due care and attention as to their "taking cold" is not given, bronchitis or pneumonia develops and almost invariably there is a fatal issue.

A LEAF FROM THE CHILDREN'S WARD AT THE MASSACHUSETTS HOMŒOPATHIC HOSPITAL.

BY ALBERTA S. BOOMHOWER, M. D., BOSTON, MASS.

The cases to which your attention is called this evening have been selected not because they are in any way marvellous or rare but because they are, in a measure, representative of the kind of medical cases treated in the children's ward of the Massachusetts Homœopathic Hospital.

It may be of interest at this point in passing, to note the recent opening of the Eleanor Clark ward for children. By this new arrangement the children have been transferred to the top floor of the medical wing where fresh air is unobstructed in its circulation and sunshine runs rife. No hospital located thus in the midst of a large city could have its children more favorably situated, and the little people who inhabit this sunshiny corner are certainly far from unhappy. Indeed, it is a common sight to see a little leave-taker burst into tears when he bids good-bye to his nurses and his playroom. Although surgical cases are here somewhat in the ascendency, yet, at all times there is present also a goodly showing of medical cases.

Almost without exception and for obvious reasons the children who come to the hospital for medical treatment are from the poorest hygienic surroundings possible—from homes in which sunshine and cleanliness are not reckoned as factors in the manufacture of healthy bodies. In these homes the one rule of infant feeding is to keep the stomach always well filled with anything convenient from a pork rind to molasses candy.

At birth these children may be well enough though too often they are handicapped from the start by a bad inheritance. If breast fed they do fairly well but the poor little substitute feeders have a sorry time of it. They are ogled along some way until they come to a point where the much abused intestinal tract refuses longer to fight it out on the same old lines,—where a tubercular tendency decides to be something more than a tendency, or where a scorbutic spirit says "it is time for me to come out".

At this stage of affairs the child may be brought to the hospital, often in a most pitiable condition. It is doubtless due to this extremely adverse state of affairs, that the response to treatment is apparently so rapid; for in most cases good nursing, aided now and then by a remedy, accomplishes wonders in a marvellously short space of time.

With your permission, then, let us note more or less in detail three cases illustrative of the foregoing type treated in the children's ward during the fall term.

The first one a case of marasmus. John B., age 9 months. Family history poor, an older brother having died of tuberculosis. A small sister was afterward refused admission to the hospital because of a too late evidence of general tuberculosis with acute pulmonary manifestations.

Since birth the child has been fed on condensed milk. During the past two months he has been having excessive diarrhœa. Was taken to a sea-side hospital, remained one week until the hospital closed for the season and the child was brought to Massachusetts Homœopathic Hospital September 4, 1900.

Call to mind, if you please, the most extremely marantic child ever portrayed in any text book on Pediatrics, then rob him of whatever slight vestige of subcutaneous fat he may by stealth have retained—circumscribe on each cheek a little red glazed spot, set far back in their orbits big, hungry brown eyes that blink in a solemn manner and you will have a picture of the little chap at the time of admission. His weight is recorded as 10 lbs. 14 ℥, head big and broad on top, face pinched, with the characteristic "old man" look, skin hung in loose folds, tongue dry and cracked, anus excoriated and sacrum and buttocks covered with bed sores. One or two sores also on occiput; these, however, healed readily after a generous administration of care and cleanliness. Those on the occiput were lanced and dressed for a time with sterile gauze.

Physical examination revealed little of importance aside from extreme emaciation and the prominent abdomen.

Temperature on admission 103⅕°, movements frequent, 5 or 6 per day, brownish, watery, and offensive. Child was put on diet of cow's milk, top of can diluted with an equal amount of water. Of this 2 ℥

given every 3 hours. Orange juice three times a day. No prescription made. Four days later, movements same. Temperature has not reached the normal but has not passed the 100° line. Cries most of the time, coughs considerably, dry-hacking. Does not care for food. Quantity increased to 3℥ and sulphur prescribed.

One week later (Sep. 15). Weight 10 lbs, 2℥, a loss of 12℥ in 11 days. Movements were the same in character and frequency, at times containing curds, and he cried much. Food quantity increased to four ounces at each feeding.

Fifteen days after admission (Sep. 19). Has lost in weight 21℥. Temperature has been running subnormally for a few days. No desire for food. Movements have improved in character. Is having salt water rubs at night. Juice of fresh ripe peach given occasionally instead of orange juice. Iodine prescribed.

End of third week (Sep. 25). Bowels have been in bad condition. He vomits food at times and is apparently losing ground. Oil rubs have been given for several days. Child is taken out into open air daily. Creosote prescribed. To-day Eskay's food prepared with milk is substituted for plain cow's milk. Four ounces given at each feeding.

End of the fourth week. Has been fed on Eskay's food seven days. Movement still bad in color, though they contain no curds and are less frequent. Food is taken eagerly at times at other times it is refused. Cries much at night. Calcarea phosphorica prescribed to-day and continued uninterruptedly for several weeks.

End of fifth week (Oct. 6). Has vomited all nourishment taken to-day. Evacuations very frequent during past few days. Child is sleeping better. Has two teaspoonsful of beef juice added to diet list twice daily also one half teaspoonful of tropon (a form of animal albumen).

Oct. 10. Is very weak this morning. Skin is cold and clammy. Cries as if in pain. Movements better in character, though still too frequent. Weight stationary.

End of seventh week (Oct. 23). Considerable improvement in general condition. Food has been made with thin cream for several days. Tropon is continued.

End of eighth week. Shows marked gain in appearance. Child is bright and notices. Sleeps well. Cream tends to nauseate so it is omitted.

End of tenth week. Steady improvement in flesh. Bowels doing well. Eczema has appeared on cheeks, for which lanoline and ichthyol 5 per cent. is used locally.

End of twelfth week. Eczema has not improved. Digs and scratches at face so hands and arms are kept bandaged close to body.

End of thirteenth week. Weight 14 lbs. 10℥.

End of fourteenth week. Eczema improving under the use of resinol.

End of fifteenth week. Child is actually growing fat. Has a benign and happy countenance with an appearance of general well being.

End of sixteenth week. Discharged cured.

The points in summarizing are: First, the advanced age of the child before the development of the disease as a favorable factor against the intense degree of the process of wasting. Second, as to diagnosis there is little question in retrospect but for many days at the outset, it was uncertain whether there was not a tubercular process to combat in addition to the simpler one of wasting. Third, if remedies can be credited with anything it would seem that calcarea phosphorica supplied at the right time a necessary element.

The second case is one of ileo-colitis. Harold Y., age 4½ mos. admitted to hospital October 26, 1900. Poorly nourished and anæmic in appearance, and has been a bottle baby from birth. In the beginning plain cow's milk was used, later strained oatmeal gruel was the food and after that a trial was given to any food mentioned to the mother, all with the same result. For the past two weeks he has had frequent loose evacuations as many as ten or twelve per day, with frequent vomiting. Temperature when admitted 101°. Arsenic iodide prescribed and the usual diet of Eskay's food.

October 27 (second day). Child cried all night as if in pain. Had several loose green movements. Is pale and prostrated this a. m. Temperature 104⅕°, pulse 160.

Oct. 28 (third day). Evacuations contain curds, vomiting at times. Temperature 102⅗°.

Oct. 29 (fourth day). Movements the same in character. Temperature 101⅕°.

Oct. 30 (fifth day). Better to-day. Temperature normal. Tropon one half teaspoonful added to food twice daily.

Nov. 2 (eighth day). Has been doing well. Movements good. Temperature jumped to 102°, no assignable cause. From this time on the case improved steadily until discharged Nov 15, after a stay of three weeks. The active symptoms were controlled in ten days. The remedy in this case (ars. iodide) undoubtedly was the strongest factor in cutting short the course of the disease, though the substitution of a properly regulated artificial food is not to be overlooked. At no time was food absolutely withheld.

The third is a case of bronchitis. Wm. B., age 5 mos. Came to hospital Oct. 16, 1900. Family history fair. Child a gray, anæmic, lifeless little individual. Has been losing flesh the past few weeks. During the past week he has had a hoarse, choking, rattling cough. Temperature 102⅘° the evening of admission.

Physical examination showed diminished resonance over both lungs. Respiration rapid and shallow, coarse and fine mucous râles posteriorly, but no evident consolidation. ℞. Ant. Tart 3×. Diet of Eskay's food, prepared as usual.

For nine days the case ran on with considerable temperature varying from 100° in morning to 101⅗° and 103⅘° at evening. On the seventh day the temperature did not rise above 100° at any time. Eighth day, morning temperature 102⅖°, evening 103⅗°. Ninth day, temperature dropped to 98⅘° morning, 97⅗° evening, with relief to a certain extent of the cough and embarrassed respiration. Tenth day, temperature up again to 100° morning, 102° evening, but from this time on until the date of discharge twenty-two days later, the temperature made no excursion above the limit of that of any ordinary child. After the tenth day the cough and pulmonary symptoms began to clear, mucous râles disappeared and the resonance gradually approached the normal.

To add to the discomfort of the baby, there was during the first ten days of sickness, a persistent diarrhœa which did not abate until the temperature had been normal several days. On the seventh day the anus prolapsed with about three inches of rectum which became instantly swollen and darkly congested. It was reduced after considerable manipulation. Podophyllum was prescribed and the condidition did not return. The remedies used in this case were; first, Antimonium tart. prescribed at the beginning and continued five days with no great benefit. On the sixth day Iodine was given and continued interruptedly, through the second week with the exception of two or three days, when bowel symptoms were at the height with anus prolapsed, Podophyllum was given with excellent results. No other remedies were used and the only adjuvants were good nursing and the usual diet.

There remains to be said in conclusion a word in regard to the method of feeding which was adopted in every case treated during the months October, November, and December. A method, too, which was continued through the subsequent term of service with happy results. The three cases cited serve to illustrate the peculiar difficulties against which any food must have worked in similar cases. It is clear, too, that careful preparation of food together with regularly appointed hours of feeding in contrast with previous haphazard methods would in themselves have accomplished much. Still in view of the fact that some of the cases observed, one of which has been already noted, had previously the benefit of other modes of feeding; it seems fair to credit the results to the measures used.

Generally speaking it is acknowledged that Pasteurization and sterilization have been found faulty even with the milk supply controlled. The elaborate formulæ for modifying milk, while scientific and valuable for use in certain classes of cases, are far from practical to the average busy mothers of families who have neither time nor ability for carrying them out. As long as promiscuous, plebian milk is allowed to circulate as sustenance for babies it would seem a reasonable plan to minimize the amount taken by adding or substituting the necessary food principle in a form which eliminates the common errors of an exclusive milk diet.

In feeding our hospital babies the case was just this and it has been found that the method used, namely, supplying albumen with milk sugar and fat in sufficient quantity to make a nutritious and digestible food in accordance with the principles of the more or less well known Dresden formula was attended with satisfaction in every case.

DISCUSSION.

Dr. H. E. Spalding. There are many points in this paper which suggest discussion. I want to speak particularly of the accommodations we have there at the hospital. I wish there were more physicians present at this time so I could explain to them about the accommodations we have there. This first case was a case of malnutrition. The diet which apparently agreed the best was Eskay's food. I find that many cases cannot take cow's milk, although it does answer admirably for some cases. What will agree with one child will not agree with another. With some cases Mellin's food does beautifully. A great many cases I find take Pierson's Digested Milk better than anything else. I think the use of whey has been spoken of. As a rule, I think that cow's milk, properly diluted and sweetened with sugar of milk will do best of anything. My rule is to let the milk set for a few hours, then take off the cream, and dilute the milk to about one half. Quite a number of physicians use condensed milk. I have never seen a really healthy, robust child brought up on condensed milk. They look plump, but are seldom of good color, and they succumb very readily when attacked by disease. They do not seem to have the resistance of children that are brought up on other foods. Personally, I never use condensed milk except as a temporary expedient, perhaps for a few weeks, to tide the infant over a period when nothing else seems to do.

In regard to the giving of fruit juices, frequently in cases of malnutrition it is absolutely necessary to give them. Even in nursing babies I urge mothers to eat orange juice and other fruit juices in some form.

Dr. Mary Mosher. I did not expect to be called upon, but I will speak of one instance in my mind where condensed milk was used in a family. This whole family of four children were brought up on condensed milk, and they have had nothing else. The oldest is ten years old, and had nothing but condensed milk for two years. They are as healthy children as I ever saw.

In regard to antitoxin, I should like to have heard more about immunizing cases. All children in the Children's Hospital are treated with antitoxin whether they have diphtheria or not.

A CONTRIBUTION TO THE STUDY OF THE TREATMENT OF PERTUSSIS.

BY F. L. BABCOCK, M. D., DEDHAM, MASS.

Among the diseases of childhood there are few, that we shall meet with less frequency, than pertussis. The characteristic convulsive attacks of expiration, with the prolonged and forcible inspiration: the initial cough of a catarrhal character increasing in severity causing irritation of the bronchi: the periodic attacks of vomiting: the congested face and tearful eye, these followed by the audible inspiration or whoop and we have our picture complete.

The disease is so familiar to the members of this Society and is so thoroughly considered in our various works on practice, than any further study of the disease at this time will not be of interest especially, except, in a practical way, of the various sequelae as they present themselves.

Could we but recognize the disease in its earliest stage before the neurotic element presents itself, I am confident that many of our later troubles might be averted.

Generally, the physician is not consulted until the severe convulsive attacks frighten the parent. This is usually after two or three weeks of severe bronchial irritation with membranes congested even to rupture of veins and capillaries. But even if we are fortunate enough to meet our patient in the early stage, we are unable to positively diagnose our case.

The similarity of the symptoms with those of a simple laryngeal irritation, the result of a cold, do not allow us to speak with confidence, and we are obliged to wait for the characteristic "whoop". This with the bronchitis, the nasal, conjunctival or pulmonary hemorrhage, gives a condition that must receive prompt and careful attention.

Pertussis is generally regarded as of little moment, yet, the death rate among infants and children under three years of age is at times high, constituting according to one writer one fourth of the mortality.

The prognosis of pertussis depends upon the age and general physical condition of the patient and the complications that may appear.

The end to be sought by us as physicians is the prevention and cure.

The prophylactic measure needed is to quarantine the child during the entire period, if, as we believe we have to do with a "contagium vivum". We know that whooping cough can only arise from an antecedent disease of the same nature. Especially should the quarantine be urged in the case of infants or young children even to complete isolation during the entire attack.

When we realize the danger to infants and all cases predisposed to weakness of the heart or lungs, we see the importance of an early removal.

The element of contagion is in the sputum, this by proper care may be destroyed and the spread of the disease prevented until the specific nature of the disease can be positively determined, and after it has been determined our treatment can only be directed to the symptoms as presented. If there are no complications the treatment by remedies is simple. Nearly every remedy in the Materia Medica has been tried and appeal is made to every new remedy as fast as discovered. Many specifics have been found and lost again.

The Older School depend principally upon opium or some of its more recent preparations; the bromides, apomorphia, ipecac, bell. or atropia: the iodides, camphor, valerian, asafetida, and musk, chloral, chloroform, ether, amyl, nit. and the various antipyretics: carbolic acid (in aquous sol.), turpentine, thymol, illuminating gas, tar, benzol, chloral by rectal injections and electricity.

In our school, remedies with numberless indications are given. Lillenthal in his work on therapeutics gives seventy, other writers even more.

In the treatment of pertussis without complication, I have used but few remedies. These are cuprum met., coral. rub., mag. phos. Many others I have tried but usually return to these, generally coral. rub., or mag. phos. These, either singly or in alternation, have been my sheet anchors, and the results have been all that could be desired. Relief begins in from four to six days and is seen in lessened frequency of coughing paroxysms with lessened severity. Under these remedies the cases have progressed to a favorable recovery. In relapses from a cold with recurrence of the spasms which may be severe and frequent, the above remedies in a few days control the condition.

Pertussis uncomplicated is rarely a fatal disease. But in the complication we find our greatest dangers. Especially is this true of pulmonary complications, of these bronchitis and broncho-pneumonia are by far the most numerous and fatal. The fatality is confined almost entirely to infants and children of less than three years of age. In all epidemics these cases should be noted carefully. By early instruction of parents regarding the danger, by close attention to the lungs, noting the first appearance of bronchial irritation and treating accordingly, it has been the good fortune of the writer, to escape with very small percentage of mortality.

I have always believed, that fresh air, free from vapors of any kind, was one of Nature's best restorers. But I have not always been able to persuade the friends of my patient to accept this theory. Consequently have been obliged to make the best fight possible, with the accompanying odors of cresoline, onions, kerosene oil, illuminating gas, etc.

The remedies used have been few. The symptoms and indications, are known to you, doubtless far better than can be given in this brief paper. *Bry. and bell.* for feverishness, *ant. tart.*, *phos.*, *ipec.* for loose cough with abundant mucus in bronchi. Cuprum met., chel., hyosc. moschus, nitric acid may at times prove useful.

Shortly after graduation, a child of 18 months was brought to me for treatment for malaria. She came from Providence, R. I. I found no symptoms of malaria. Her temperature was 103° morning and evening. Pulse 130 and very feeble. Respiration rapid, 44 per minute. Convulsive rolling of head, pupils dilated and she lay in a semi-stupor, arousing only to cough, falling back in arms of her nurse thoroughly exhausted. Profuse secretion of mucus in both lungs.

The child had been sick for six weeks and had been treated for malaria, but gradually grew worse and as a last attempt to save life, was sent to Dedham, which at that time was free from malaria. I could get no other history of the case, and as the pulmonary condition was sufficient to account for all the symptoms, I acted accordingly. Several days of treatment reduced the pulse and temperature but as the cerebral and pulmonary symptoms did not improve, I called our late Prof. Smith in consultation and under his skillful guidance our patient gradually improved. As the temperature decreased, her cough which had not been severe before, increased and developed into a most severe and aggravated pertussis. This finally yielded to coral. rub. This case to me was most interesting because of the complete masking of the characteristic symptoms of pertussis by the pneumonia. I have never before nor since witnessed a similar case, although those cases are recorded.

It has been my fortune to pass through several severe epidemics in institutional work, as well as in private practice, and the confidence of the writer in coral. rub and mag. phos. is unbounded.

REPORT OF COMMITTEE ON OBSTETRICS.

GEORGE H. EARL, M. D., *Chairman.*

GENERAL SUBJECT : TEMPERATURE AFTER DELIVERY.

I. A Brief Study of Temperature in Certain Serious Puerperal Complications, with Cases, SARAH S. WINDSOR, M.D.

II. Dispensary Cases and Statistics, LENA H. DIEMAR, M.D.

III. Two Cases, NELSON M. WOOD, M.D.

IV. The Common Cause, with Cases, GEORGE H. EARL, M.D.

TEMPERATURE AFTER DELIVERY.

BY GEORGE H. EARL, M. D., BOSTON, MASS.

The subject selected for this bureau, is one which can hardly fail to be of interest to every general practitioner present, and it is hoped the papers will provoke lively discussion.

The following propositions are thrown out, with this one object in view, viz: to cause discussion and they are worded rather strongly in the same spirit. They are as follows:—

1. The most frequent cause of rise of temperature after delivery is the absorption of some poison from the intestinal tract.

2. A not uncommon cause is the absorption of non-septic lochia.

3. That rise of temperature, chills, coated tongue, headache, distended and tender abdomen and foul smelling lochia, do not call for intra-uterine interference of any kind.

4. That a curetting is usually contra-indicated after the first week.

5. That a second curetting is always a mistake.

6. That any interference within the vagina or uterus (except for repair or to control hemorrhage), from the time of the expulsion of the placenta until the red lochia ceases is meddlesome.

A BRIEF STUDY OF TEMPERATURE IN CERTAIN SERIOUS PUERPERAL COMPLICATIONS.

BY SARAH S. WINDSOR, M. D., BOSTON, MASS.

It would be impossible in one paper to even mention all the post partum conditions in which abnormal temperature may be found, so I shall not make the attempt, but shall limit my paper to a few observations suggested by cases seen by Dr. Earl and myself, during the last quarter at the Maternity.

I am hoping that they will prove equally suggestive to the members present so that we may profit by the experiences thus brought out.

At this time I am not reporting operative proceedures, for while no one can see more plainly than I the necessity for such treatment under the proper conditions, and we had those during the quarter just past, yet I appreciate the fact that most confinement work appeals, or should appeal, to us, not as mechanics but as physicians.

Before proceeding to the consideration of the cases that prompted this paper, I shall venture to recall to your minds certain facts that are doubtless very familiar.

It is always satisfactory and even essential to know the normal conditions in order to recognize deviations therefrom, so for a moment let us consider the manner in which normal temperature, or an equilibrium, is maintained.

We know that two factors enter into this contract, viz.: production of heat on the one hand, and loss of heat on the other, so that we may expect to find a state of pyrexia, either from increased heat production or decrease in heat loss. In the healthy individual when from any cause there is an increased production of heat there will at once be a counter-balancing loss of heat, which maintains the body within a narrow range, known as normal temperature. Simple but interesting tests have been made for the purpose of finding out how adjustment is brought about between the production and loss of heat in the human body. One, with the Turkish bath showed an elevation of temperature in three-quarters of an hour to 103.2° followed by the loss of 185.7 mg. of sweat, and normal temperature after another half hour.

A more commonplace test, but reported not so popular with the performer, is the old process of sawing wood, by which a healthy man working industriously for an hour will raise his temperature 2.1° Fahr. with such compensating loss of heat that no condition of pyrexia follows. From such simple observations as these we gain the idea that back of the two factors of heat production and heat loss there must be some regulating force which gets out of order before a condition of pyrexia can be said to exist, and this to my mind takes us back to the mainspring of life, call it Nature's vital force or what you will. When this is deranged, we have not only pyrexia but general lack of harmony and the picture of disease. One, Samuel Hahnemann said, "In sickness this spirit-like, self-acting vital force, omnipresent in the organism, is alone primarily deranged by the dynamic influence of some morbific agency inimical to life. Only this abnormally modified vital force can excite morbid sensations in the organism and determine the abnormal functional activity which we call disease. This force, itself invisible, becomes perceptible only through its effects upon the organism, makes known and has no other way of making known its morbid disturbance to the observer and physician than by the manifestation of morbid feelings and functions; that is, by symptoms of disease in the visible material organism."

Pyrexia is not then to be treated as an entity and suppressed by sheer force, but rather regarded as one of the important symptoms of a disarrangement which we are to bring back into harmony in the shortest, most reliable and safest manner according to clearly intelligible reasons, removing in each case any obstacles in the way of recovery.

The woman who has just passed through the activity of labor is in a peculiarly susceptible condition, not only from the immediate struggle but from the antecedent nine months' strain upon the whole system, and unless her vital force is in healthy, active power we shall experience a change from the usual happy physiological appearance to one of discord and dismay.

It is wonderful to see how, in the majority of cases, equilibrium is maintained in spite of the extreme muscular activity and nervous excitement. The great beads of sweat mean that our good friend Nature is at work conducting to, and radiating from, the surface the excess of heat produced, and unless some morbific influence disturbs the controlling principle the puerperium will be calm and uneventful.

In the cases which I present we shall follow the temperature during disturbance manifested through three important systems, viz.: the respiratory, the cerebro-spinal, and the renal. In the first two there was no apparent reason for anticipating serious complications; in the third, we were forwarned by the condition existing when the patient entered the maternity.

Mrs. G., recommended by Dr. Wood of Charlestown, entered the Maternity at 3.30 Sunday afternoon, February 3, 1901. At that time examination revealed the cervix obliterated, the os dilated to the size of a quarter and a foot presenting within the bag of membrane. The position was diagnosed as a sacro, left ant. Dilatation proceeded as well as usual under the circumstances; the patient was a primipara of rather slender built, in manner very reserved and uncommunicative; did not want to talk and complained very little, so that in the short time before delivery nothing was said of a "cold" from which her husband afterwards said she had been suffering. The second stage began about 8 P. M. and progress seemed very slow on account of the size of the child, slight assistance was given by traction from below and pressure from above and the after coming head delaying, it was delivered somewhat rapidly, thus incurring a second laceration, which under the circumstances I considered justifiable. The baby, a fine boy weighing a trifle over 9 lbs., was soon crying lustily and plays no further part in the story except as a very agreeable boarder in the nursery for the next seven weeks. During the last pains of labor ether was administered to the patient but not to profound anæsthesia.

The placenta and membranes were delivered not quite so perfectly as I like to see, but considering it safer not to enter the uterus unless necessary, and there being no sign of hemorrhage, the perineum was quickly repaired and the patient taken to her room.

February 5. The patient seemed to have much irritation in the bronchial tubes, with cough, some soreness in left chest on inspiration, thirst and temperature rising, morning 101°, evening 104°. Bry., we prescribed for her.

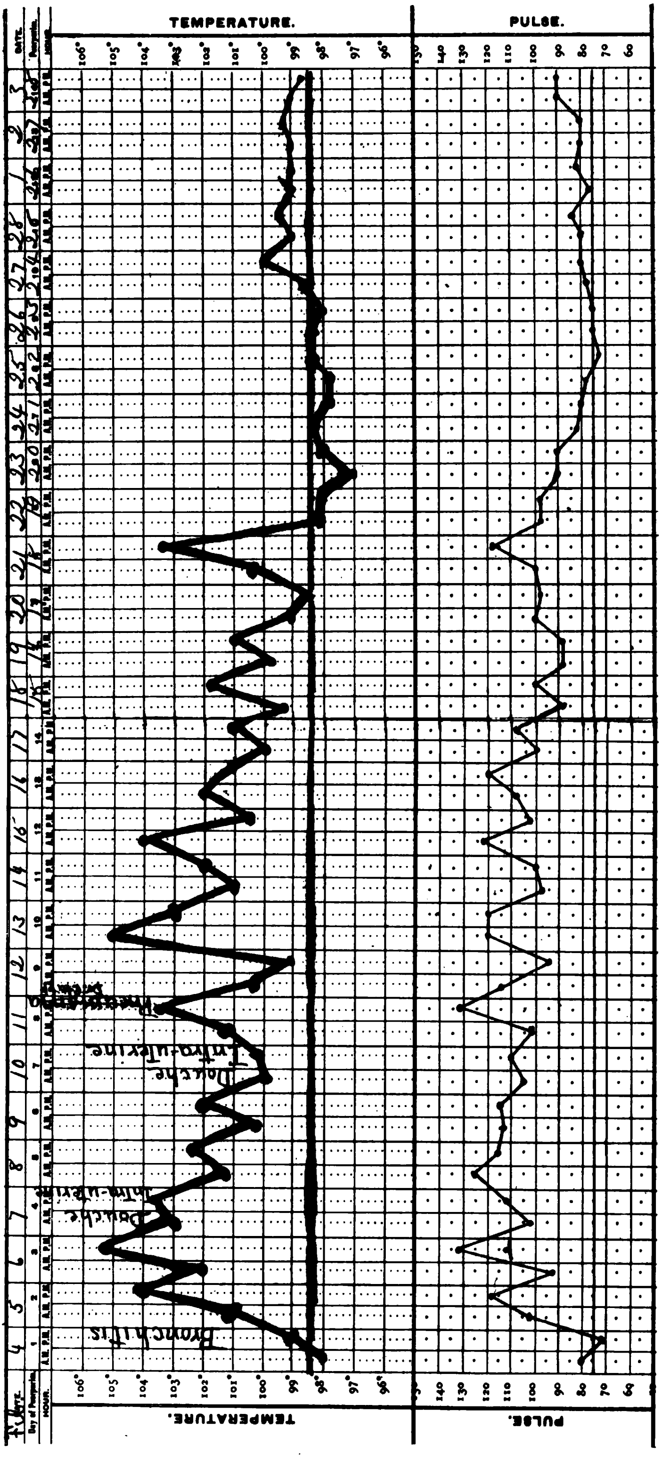
February 6. Morning temperature 102°, evening temperature $105\frac{2}{5}$°, pulse 130.

The lochial discharge was apparently normal and there was no suspicious soreness, but remembering the somewhat ragged condition of the membrane an intra-ut. douche of warm sterilized water, followed by a little peroxide, was given. Some debris was then removed. The next day, Feb. 7, Dr. H. C. Clapp examined the patient and pronounced her suffering from pneumonia and upon examination of the vaginal discharge the micro-pneumococci of pneumonia were found. It was somewhat difficult to get symptoms from the patient; she was hoarse anyway and at times would not speak at all. Indifference, then anxious apprehension. The respiration was difficult and shallow; sputa profuse. Dr. Clapp prescribed Phosphorus. A second douche was given, which came away so clear and the uterus itself seemed so normal that this was not repeated.

February 7 and 8th were more encouraging days and the 9th seemed so regarding temperature and pulse, but the patient developed a kind of sly cunning and that evening broke out into mild delirium or mania, in which she suspected everyone about her and was startled by anyone coming in. Her eyes were wild, with pupils dilated, face flushed and pulse full and throbbing. Bell. was the prescription.

February 10. Temperature and pulse better, but mental condition not much improved so that an attendant was with her from this time on for several weeks.

CONFINEMENT CASE, NO. 1. MRS. G.



The temperature and pulse for the next day had another exacerbation with an abrupt fall to nearly normal on the 12th; this was accompanied by great prostration, a peculiar death-like pallor and sweat, short, anxious respiration, with distressed appearance of the face. We thought the prognosis very bad at this time and hardly expected her to rally. Arsenicum was given.

Next morning a temperature of 105 greeted us but the patient's mind was clearer, and a peculiarity after this for some days was that with an increase of temperature the patient was more rational. The chart from this time shows the decline of the disease which did not extend evidently beyond its first bounds. Nourishment was carefully administered all the time and was well borne.

From February 23d, when you will see there was a sharp fall, the temperature ran a little below normal for five days and then continued just about normal for the remaining weeks she was with us. Her mental condition became normal. Arsenicum was repeated at intervals and food was given as the patient regained her appetite, which she fortunately did so that she was growing steadily stronger when she left the Maternity on March 23. She was, however, one who suggested tuberculosis and ought to be watched and directed for some time. In looking back, I wondered whether ether might have aggravated the condition.

The second case was one who had been confined once before and at the Maternity, a somewhat difficult labor. She entered this time on February 9, 1901, at 3.30 P. M., having regular pains which began at 9 A. M. She was nervous and apprehensive, saying that she knew she was going to die, and this was her constant cry. Although this may mean nothing, yet it often indicates a lack of the persistence that will help a woman through hard places. The second stage began at 5.35 and the baby was born in good condition at 6.40 with slight tear into old cicatricial tissue. The placenta came naturally in twenty minutes. The patient was put to bed and everything went well except that she was nervous and apprehensive until two days later, on February 11, when she complained of a pain in the left side of her head which she said was a touch of her old neuralgia. Temperature was normal and she passed a comfortable night and part of the next day; in the afternoon she complained of shifting pains and feeling of coldness, and although she gave no definite signs of chilliness her temperature arose to 103.6° and pulse to 128.

We could discover no local condition to account for this, the lochial discharge was free, bright with no odor, and it seemed more like an hysterical condition than anything else.

The next day, February 13, the patient complained of headache, soreness all over, with sore throat and it seemed as if she might be starting a grip attack. The symptoms seemed to call for Bryonia.

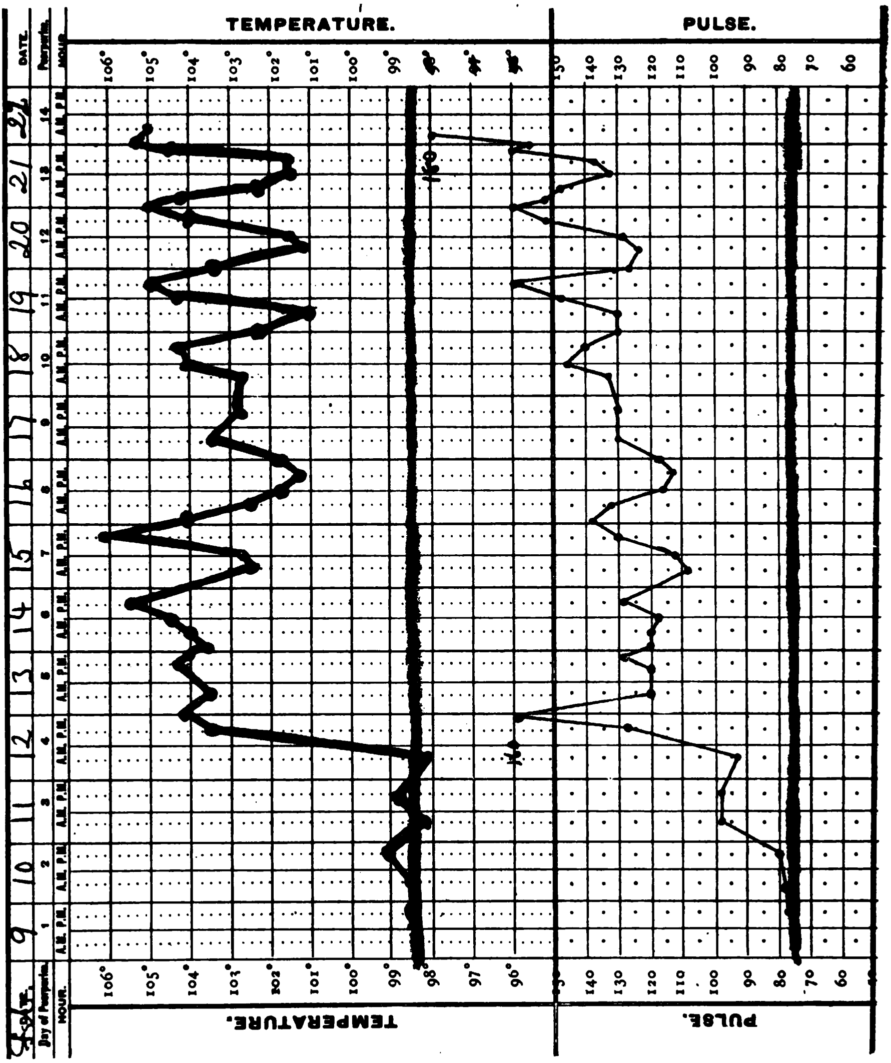
February 14. Patient passed an uncomfortable day with temperature ranging from 103.6-105.6°, pulse 128. That night she slept and the temperature (15th) was down to 102.4 in the morning but the day brought on a kind of delirious condition; she said she could not move her arms nor talk, though she could do both. She was given a high enema followed by free evacuation of the bowels. She was very much depressed and given to much weeping and complained of shifting pains, and Puls. was given. On the 16th the temperature came down to 101.8; pulse, 138 to 114, though the delirium was marked, and there were involuntary movements of the bowels. The next day the patient was etherized and the uterus wiped out with gauze, nothing abnormal could be found. Dr. Wesselhoeft saw the case in consultation and it was thought best, on account of the prominent nervous symptoms, to ask Dr. Colby to see the patient. He (17th) accordingly did so, and diagnosed the case as some form of puerperal meningitis (non-septic) and prescribed Cicuta. On the 18th and 19th there was slight improvement; ice bags were applied to the head with some apparent relief and the patient was quieter. Speech was thick and indistinct. The next three days (19, 20, 21) the brain symptoms increased, though now and then there would be rational gleams. The respiration became shallow, there were convulsive twichings of the muscles, rolling of the head with sharp cries, involuntary urination, difficult swallowing, and a general hopeless appearance. Stupor finally supervened, broken by occasional cries, and death came to her relief the morning of February 22.

There was no examination after death, but from the onset and course of the disease it comes near to the description of results arising from "acute sporadic inflammation of the pia mater of the convexity or upper surface of the brain." This seemed to me a hopeless case at the time we had dealings with it, but that something might have been done to effect the diseased system by judicious previous treatment. This is one place where a family physician has a chance to do good work. If this patient had been known from her birth and her antecedents known as we afterwards learned them, there might be two little motherless children the less. It seems that the mother of our patient, at the birth of her second child died from some brain affection; of the two girls thus left one had died not long before our case, also with her second child, and from brain trouble, so that there are four children of the third generation left to perpetuate their kind.

In one of the latest text-books on nervous diseases I found the following rather apt conclusion:

"Experience teaches that the diseases of the nervous system may be divided with respect to their localization into two great groups, into systematic and non-systematic diseases. By systematic or system dis-

eases we understand those affections in which only nerve cells and nerve fibres, that is neurons which have a definite physiological function, are attacked. The aggregate of all the neurons which subserve a definite physiological function is called a neurone system. The



CONFINEMENT CASE, NO. 2. MRS. K.

interesting fact that sometimes only the neurons which belong to a certain physiological system becomes diseased, all the other neurons remaining perfectly normal is to be explained, as far as our present knowledge goes, as follows: first, clinical facts show that certain neurone systems are abnormally weak and sickly in some persons from birth. What the primary cause is we do not know, but very frequently it presents itself most distinctly as a hereditary or family affection." Since, as the writer frankly states, we do not know the primary cause, the best treatment of such cases will continue to be removal of all obstacles to recovery, careful individualization in accordance with our law. The third and last case which I must tax your patience with is brief and cheerful.

The effect of pregnancy on the kidneys has been so generally discussed that I do not need to enter upon the subject here except to repeat how easy it is to pass from the so-called "physiological albuminuria" of pregnancy to the pathological state in which large quantities of albumin and casts are found together with decrease in urea.

On February 12, 1901, our little Italian patient was admitted to the maternity. I call her little because I saw her after she had shrunk to her normal dimensions and she was small then, but when she was brought in about 11 o'clock at night on a stretcher her face was so swollen that it looked about a foot broad, and as we examined farther we found the same condition existing, swollen feet, hands, legs and arms, while the labia, were so œdematous that the thighs were widely separated. The history that we gained from a relative, for the patient herself could not speak a word of English, was to the effect that she had had a miscarriage seven years ago; that she is now nearly at full time; that for two weeks at least she has had this swelling; two days ago she had a convulsion, biting her tongue badly; this morning another severe one, and now complains of pain through her head and eyes. Dr. Earl and I pondered over the case and finally concluded to follow a conservative course as labor had not even begun and the condition was not threatening her life. The first thing ordered was a hot tub bath to give the pores of her skin a chance. She seemed very loath to lose the soil of sunny Italy that she had evidently brought with her, but was finally persuaded mostly by pantomime, and after that she was put into a pack and Arsenicum was prescribed. Towards morning she had a severe convulsion. The temperature was 104° when she came in but the next day it had dropped to nearly normal, and it was decided to give Nature a chance to deliver. The labia were punctured, allowing the escape of much fluid. Large quantities of pure water, milk and lemonade, which the patient especially enjoyed, were given. A sample of urine was obtained after some time, the patient losing most of it involuntarily, and an analysis was made:

Apis was decided upon for the remedy.

Early on February 15, three days after coming into the Maternity, having had no more convulsions, pains began, and labor was allowed to proceed under careful watching until the baby was delivered at 11.30 A. M., still born. There was no occasion for interference, although we were ready to assist at the first intimation of danger. The following day the patient looked very uncomfortable and the temperature was two degrees above normal, but the same treatment was carried on and a steady improvement followed, the temperature not arising above 100.8° at any time. Owing to lack of data we could not decide to which of the three classes of kidney complication this case belonged. Whether this was (1st) chronic Bright's disease which existed at the beginning of pregnancy, (2d) condition existing previously but apparently cured at the time of the beginning of pregnancy, (3d) a condition in which albumenuria began as a consequence of the existence of pregnancy; probably the last was her condition. In any event the patient returned to her home *thin* and on the high road to health.

With the delightful uncertainty of obstetrics, the case that threatened the most serious consequences before labor was in the best condition when she left us.

DISPENSARY CASES AND STATISTICS.

BY LENA H. DIEMAR, M. D., CAMBRIDGE, MASS.

It was suggested by the chairman of this bureau that it might be interesting to see how much variation in temperature there has been among the patients attended by the students from the Dispensary during the last year or two. I have accordingly studied the records of cases for two years, judging that to be a sufficient length of time for giving the desired information.

I wish I might give in each case the cause of the elevation of temperature, but in many of the reports the elevation was of such brief duration as to merit no comment from the attending students. From this very fact we may infer that the condition was not serious at any time.

The homes of the Dispensary patients, as we think of the surroundings, are surely not the places to look for ideal temperature in obstetrics.

Aseptic conditions are almost impossible, and compared with our private work as with hospital practice, everything is unclean from beginning to end. No sterilized sheets or pads are at hand, and many times the patient lies on an old quilt without even a sheet or any protection for the vulva. Yet with all these discouraging conditions not a patient has been lost in the Dispensary practice for years, and the temperatures are for the most part normal or about a degree above.

In the records for the last two years, out of six hundred cases, four hundred and ninety-one were within the normal range, that is, below 99°. Sixty-nine between 99 and 100°. These were due to the establishment of lactation or an over-loaded bowel. Twenty-one were from 100 to 101°. Of this group, one patient had a post-partem hemorrhage, another grip, another articular rheumatism. Eight patients had a temperature between 100 and 102°. Of these, one was due to an over-loaded bowel, and as soon as the cause was removed the temperature went down to normal. Another case was due to lactation, another had grip. Seven cases were between 102 and 103°. Among these was one of abortion, another of indigestion; the remainder not specially reported. Four cases had a temperature of 103 to 104°. One was due to an over-loaded bowel, and the temperature fell to normal as soon as the mass was removed. A second case was due to an old clot which caused sapræmia. The clot passed on the eighth day and the temperature went down immediately. The third patient was well until the first day she sat up, when she complained of soreness in the uterine region. The next day the temperature was normal and nothing further reported. The fourth case was one of abortion.

We thus see that only nineteen out of 600 cases were reported to have a temperature above 101°, and even among these nineteen there were no indications of sepsis.

It sometimes seems a mystery how these patients with almost no care at all, get along better than the one who has everything done in the most approved methods of the present day.

It has been demonstrated that there are cocci, staphylococci and bacilli in the genital discharge even in normal cases, and under these circumstances it seems as if the clinical symptomatology must necessarily depend on the resisting power of the person in whose body the micro-organisms have obtained a foothold. A puerpera weakened by previous diseases obviously will resist the onset of these infective elements to a far less degree than the woman who has reached full term and has passed through her labor with undiminished, or rather, unweakened vital forces.

The hard working woman seems to be the one who has the most resistive power, unless we conclude that if the coating of dirt is only thick enough the person may be immune.

SOME CAUSES FOR INCREASE IN TEMPERATURE DURING THE PUERPERIUM.

BY NELSON M. WOOD, M. D., CHARLESTOWN, MASS.

The subject under consideration is to my mind one of great interest and importance, and should be considered carefully by all who practice midwifery. To the physician it may mean many hours of intense anxiety regarding his patients, not only as to their immediate safety, but also as to future conditions. These future conditions are many and varied, and involve in many cases the health and happiness of an entire family. Cases of immediate danger to the patient after delivery have always seemed to me to be one of the most appalling conditions that could possibly hang over a family, especially as it is a time when new life and added fullness of joy in the household is anticipated.

Fortunately, not all cases of fever during the puerperium are so serious in character as has has been suggested, nor is the percentage of serious cases anywhere near so great as twenty-five years ago. Many cases, however, are constantly occurring even under the care of the most expert. Were it not so I should hesitate about coming before this meeting today, as I have had some experiences that I shall not easily forget, and have also learned from them lessons that are to me, at least, of some value.

I will briefly mention a few of them in connection with partial histories of a few cases.

If an increase of temperature is noted at any time during the puerperal period, the first question that comes to all is, what is the cause of it? Other symptoms are then carefully noted, such as coated tongue, headache, thirst, character of lochia and the time that has elapsed since delivery, whether temperature rose gradually or suddenly following a chill. If all these symptoms and other common ones, are carefully grouped in the different types of cases attended by fever in this period, much can be learned about determining the source of the poisons and the location of the infection. For instance: Mrs. M——, 35 years of age, third pregnancy, had a hemorrhage two hours after delivery of placenta. On the third day she had a chill and temperature rose to 104°, severe headache, pulse 112, very thirsty, very quiet and tired, lochia became very scant and bad odor.

An aseptic intra-uterine douche was given, the uterine cavity carefully curetted with large Reynolds curette, wiped out with peroxide of hydrogen and water equal parts, and a light packing of iodoform gauze put in for twenty-four hours. One day later another intra-uterine douche was given, and patient made good recovery in fifteen days.

Now what was the cause of the trouble? Quite a considerable debris of placental tissue was removed with the curette. Evidently this became infected from external sources.

In this case the uterus was very weak and without pains to expel the placenta, and after waiting one hour and a half it was expressed by Credé's method. The points I wish to emphasize in connection with this and similar cases are these:

First,—Whenever it becomes necessary to use force in expelling the placenta do it with the open hand upon the fundus, at the beginning of the pains, as there is less liability for leaving portions of the placenta.

Second,—If hemorrhage occur shortly after delivery of the placenta, especially if any manual interference has occurred, suspect débris and go after it at once if any symptoms appear indicating sepsis.

Third,—If no hemorrhage occur, and there are no marked chills with sudden rise of temperature during the first three days, do not curette the uterus until you have by exclusion ruled out all other possible causes, and these should be searched for with great diligence.

The case of Mrs. S——, 30 years of age, illustrates another cause:

First pregnancy with left occipito-posterior position, and when membranes ruptured there was a prolapse of the cord that could not possibly be kept back. Podalic version was accomplished and a living child delivered. No ruptures occurred and all went well for one week, when the patient had a headache come on and fever of 102.5°, with aching and tenderness in her right side on a level with the umbilicus. The nurse reported normal movements nearly every day, after the third, although some of the time obtained by enema. The lochia were normal and there had been no chill. I feared an acute attack of appendicitis and called Dr. Earl in consultation, as he had been with me at the time of delivery of the child. The most careful examination showed nothing except the fever and pain and soreness in the side, and as we could not make out satisfactorily a case of appendicitis or acute liver disturbance, we decided that the bowels had not been properly relieved of their contents, that the accumulation was in the cæcum or colon, and that the systemic disturbance was due to auto-infection. High enemas of glycerine and warm water and a good cathartic quickly cured the patient.

Another case, the cause of which I never felt sure that I knew, was Mrs. C——, 23 years of age, American. The first pregnancy; had a very short and easy labor, which was completed about eight P. M., Oct. 23rd, 1897. At 2.30 in the morning, six and one-half hours after labor was completed, she had a very slight chill, and the temperature during the day following did not reach 100°. Twenty-four hours later she had another chill more severe, and temperature reached 103° at noon following, and at midnight was at 104°. The lochia became very scanty and of peculiar odor, there was also a light membranous exudate over the cervix and a portion of vagina near the cervix. This was carefully cleansed with peroxide of hydrogen and the uterine cavity washed out and curetted. A very small amount of placental débris was removed. Temperature went to 105°, pulse 120. Next day an intra-uterine douche was given and temperature came down to 102.8° as the lowest point with pulse 108. From this time (Oct. 27th) until November 7th, I kept all parts carefully cleansed, the patient taking all the nourishment possible, as milk, egg-nog and gruels, and the remedies that seemed indicated as arsenicum, mercurius and belladonna. The temperature averaged during this period about 102°, pulse 110. There were no chills and no characteristic temperature curve. The surface of the cervix and vagina became more nearly normal and the patient did not complain much. A consultant was called and he advised extherization and another careful curetting. It was done. The next two days the temperature averaged 103° and went as high as 104.6°. November 10th another chill occurred, and for the next four days they occurred about every twelve hours, and then greater differences were noted in temperature, it ranging from 99° to 105.6° with corresponding change in pulse from 90 to 122. About this time a small enlargement in the right tube became manifest, accompanied by great pain down the right leg, also through the back. The muscles became stiff and sore and the suffering with it was intense. More chills occurred on the 19th and 21st; on the 23rd the same consultant advised aspiration of tumor per vagina, and if needed prepared to open and drain. Aspiration was carefully done under ether and not a single drop of pus could be found.

The temperature varied, averaging about 101° from this time until December 6th, when it dropped to normal and continued so. The enlargement gradually became smaller and less tender. The pains in the back and limbs also improved. The nurse stayed with this patient until January 4th, at which time she was able to care for her baby. At the close of the month she was fairly well although not as strong as before confinement.

I should be glad to hear criticisms on this case so that I might profit from them in my future work, as I am sure I never wish to spend three such months of anxiety over one case again.

THE COMMON CAUSE, WITH CASES.

BY GEORGE H. EARL, M. D., BOSTON, MASS.

The over-loaded bowel I believe to be the common cause. In these cases an enema is given and a movement results every other day. Then an enema each day for four days with a movement each day, temperature going up and down, up to 102°, then back to normal for a few days, then 104° and then down again. The nurse says that a large amount of feces came away with each enema, three days in succession. The nurse will often say that the patient has a large movement every other day. That statement, that the patient has had a large movement should always put you on your guard. If there was, the chances are that it was not all removed. Such a statement from a nurse should always put you on your guard.

CASE.

The patient was a frail little woman, and labor was normal. An enema was given at the beginning of labor as usual, and one every other day thereafter; then one two days in succession, with a good sized movement. Then she had chills, and the temperature went up to $103\frac{2}{5}$° with usual treatment, then down again, then up to 105°. When she began doing that we gave every day a high glycerine enema. After that the temperature remained normal. It became a by-word there, "How is that woman's temperature?" It was only after the conclusion of the case that I was perfectly satisfied that the overloaded bowel was the only trouble. After as good care as we knew how to give, the temperature went up again. After so long a time, and giving daily enemas we felt rather discouraged. Palpation of the abdomen revealed a hard lump. I directed the nurse to give an enema of warm water and glycerine with a long stiff tube, with patient lying down, using very little force, and during all that time, to manipulate the abdomen. The next day when I saw her the temperature was normal again. I may say here that these repeated treatments were given by the nurse under protest, and it was very plain that she did not agree that the overloaded bowel was the cause of the trouble. She had been in the habit of seeing intra-uterine douches given for temperatures but not continual enemas. However, after those enemas and delivery of that mass showing its age, and giving evidence of having been very long retained in the bowel, the nurse was convinced that it had something to do with those temperatures. The odor was unbearable through the house, and there was septic material which I am inclined to believe had been there for months. Notwithstanding the fact that there may have been regular or very nearly regular movements of the bowels, there may be a lot left on the side track and it interferes with the recovery of the patient. Where that is manifest, other treatment is a mistake. Just why does such a thing happen? It seems to me that it is plain enough. During the nine months of pregnancy the woman's bowels have been subjected to pressure, pressure which becomes considerable and is continual, and there is a pressure paralysis present. That pressure is entirely relieved in a few hours, and it seems to me it is very natural and reasonable to suppose that there should be inaction. Another factor in the case is that the puerperal woman is an absorbing body. She takes up everything that is in the system, and there is absorption going on in the entire system. Whatever is there is rapidly taken up.

GENERAL DISCUSSION.

Dr. Henry E. Spalding. I am greatly interested in this subject. It is not a subject which will produce great show, but it is certainly very practical. Two of the cases reported in Dr. Windsor's paper I saw. The case which died of brain complications was a most interesting case, and I regret that we could not have had an autopsy to tell the real trouble. It was certainly a brain complication incident to delivery, but why it should have developed I am uncertain.

The other case of the little Italian woman was an extremely interesting one. I saw her when she came in, and it certainly looked as though she would have convulsions, but after the judicious treatment instituted by Dr. Earl, she came around all right.

The third paper was very interesting. Apparently the boys and girls can go out and get better results than we who have been in practice so long. Regarding this question of the women in the slums doing so well where the women in the aristocratic portion having every care will have the harder time, I think we can hit the nail on the head when we say that the hard work has made the patients so strong that they can repel the poisons, while the women who are cared for so tenderly are not so strong and have to suffer. That must be the reason. I cannot believe that these young people can do so much better. I have been much surprised to see how these cases that have nothing but old newspapers to spread on the bed and old strips of carpet, do so well. They will go along beautifully, while their more fortunate fellow beings who have everything to do with, have all sorts of complications.

As to that first case of Dr. Earl's, as I see that whole case as he presented it, the frequent enemas, and the temperature kept going up, I should say there must have been pus present. It seems to me that there must have been some complication, because the enemas were given so frequently, and seemed to be only transient in their effect until he found the fecal mass. However, Dr. Earl was right on the ground, and I accept his opinion.

The other case was an exceedingly interesting case, and the fact that he did find the fecal mass, and upon removal the febrile reaction disappeared, is proof enough that that was the cause of the high temperature. I have in mind a noted Boston physician who diagnosed a case of tumor in the abdomen and said it was inoperable, that nothing could be done. I was a new man in the town, but I decided that the trouble was fecal matter in the bowels, and began to unpack the bowels; in about ten days the patient became all right. Now if it is possible for men in active life to have constipation, we can easily understand how easy it is for the pregnant woman to have this trouble. The abdomen is so occupied with the active uterus that the bowels are more or less interfered with. We generally get a torpidity of the bowels, a paralysis of the bowels, peristalsis comes to a standstill, and we do not get a movement of the bowels unless some means be taken to bring it about. For that reason it is my practice to see that an action is encouraged on the second day either by an enema or in some other way.

I do not believe that anything like all temperatures come from absorption of toxines. I am sure, from my own experience, that many temperatures come from inflamed breasts, enlargement of the breasts, the rush of milk to the breasts, the breasts become hot and tense, and we certainly must get fever from it. I think we get an elevation of temperature from enlarged breasts and overloaded bowels more frequently than from any other cause. When there is elevation of temperature preceded by a chill we must be very cautious in watching the discharges.

Dr. Eloise A. Sears. The report given by Dr. Windsor of the little Italian woman reminds me of a case that came under my observation. The woman had convulsions and lay at the point of death for several days. I examined the urine, and you can imagine my dismay on boiling it to find it solid. She passed through her labor all right. The only thing was an excessively high pulse, which continued for three or four weeks. That pulse was continually high and remained so. She got up all right.

Dr. Carl Crisand. The case just recited reminds me of a case I had about ten days ago. I found no albumen in the urine. I did not test for urea, and I think that was my mistake. It was an instrumental delivery, but she came out all right. There was no trouble until about an hour after delivery, when there were convulsions which were controlled by chloroform. The case was attended very faithfully by a

Boston physician. Her pulse all the time was very high and tense, but veratrum controlled that very well. We examined the urine and found about one-third the bulk albumen. We drew off six to eight ounces every six hours, which was certainly a good amount of urine. The pulse had been up to 160 and the temperature up to 106°. We used packs and it came down very well, but in spite of all our care and attention the patient went into collapse 48 hours after the labor. This was a very sad case to me, as she was a friend of the family. In this case we used Pilocarpin without any effect whatever, and intravenous solution which brought up the pulse in very good condition, and the respiration was good, but in spite of all we could do she expired.

I would like to ask Dr. Earl if the blood was examined in these protracted cases, and I would like to ask why he did not give a laxative in connection with the enemas.

Dr. Geo. H. Earl. The treatment in these cases of loaded bowels is $\frac{1}{10}$ gr. calomel every two hours. In cases of toxæmia of pregnancy with diminished urea and albuminuria the treatment is to get the skin, the bowels and the kidneys to act. On the table the patient is bled, and an intravenous saline is given, and in one case treated by Dr. Spalding, and with happy results, the saline solution was introduced into the abdomen itself. The general way to answer the question is, that the cases which look the worst often come out the best, while cases which have every appearance of going on nicely often turn out the most serious.

REPORT OF COMMITTEE ON CLINICAL MEDICINE.

ELMER H. COPELAND, M. D., *Chairman.*

I. The Modern Idea of the Use of Drugs as Medicines, CONRAD WESSELHOEFT, M. D.
II. Advancement in Treatment of Diseases of the Chest, HERBERT C. CLAPP, M. D.
III. Serum Therapy and the Animal Extracts, J. P. SUTHERLAND, M. D.
IV. Modern Aids to Accurate Diagnosis, JOHN P. RAND, M. D.

THE MODERN IDEA OF THE USE OF DRUGS AS MEDICINES.

BY CONRAD WESSELHOEFT, M. D., BOSTON, MASS.

This is the question upon which I have been requested to write something. The time at my disposal will not permit more than a brief allusion to some of the main points of the problem which I have treated of more fully in a paper read before the Medical Society, County of New York, February 9, 1888 (see N. A. Jour. of Homœ., March and April, 1888). To this I must refer to some extent. There I endeavored to point out that what is called the history of medicine is only very remotely and indirectly connected with medicine, being mostly an exposition of philosophical dogmas concerning life itself, while we search in vain for any direct knowledge or principle governing the action of medicine proper. The search for such a principle or such knowledge leads to many interesting reflections, for everywhere there can be traced a belief in the action of drugs to cure disease, "Simple observation of the bent of the popular mind today will show us the root of the origin of the universal *faith* in drugs and will assist us in understanding the nature of tradition. Look about you where you please and you will be overwhelmed almost with this atmosphere of faith in medicine to accomplish the miraculous. Every wall, every rock, is inscribed with it. The landscape is disfigured and made uncanny. It pervades society quite as much. It is proclaimed by cunning labels of nostrums and by flaring announcements in the highways and in whole sheets of the newspapers. This faith is shared by the humblest squatter in the far West, as well as by the highest dignitaries of the land." The present craze for medicine is now even more widespread than in the so-called dark ages, and "patent medicines" today show us just how materia medica was collected and grew ages ago. Read only the shrewdly worded labels on the bottles and packages, and compare them with the pages of our old friend Pedanius Dioscorides, and the manner of the tradition will become apparent. In Chap. II. of the book on "poisonous animals and rabies of dogs," he instructs us to burn crawfish with twigs of clematis, and after having powdered the ashes, powder some gentian root, mix with the ashes of crawfish in wine, make a gruel of it and administer to the person bitten. It is better, says our ancient friend, that some should suffer the medicine in vain than to be led into danger for want of prompt action. In another chapter selected at random (Cob. XXXII, Vol. II) Dioscorides says: "In order to cure the swelling of the breast, wash some dictam herb (Origanum dictamus) in the cold, and bathe the breast with the water. If you doubt the efficacy of this medicine and decide to test its power, anoint with it the horns of a young goat, and they will cease to grow."

Such was materia medica away back in the middle ages. Pathological and physiological theories constituted the science of medicine. At the time of Claudius Galenus the relation between soul and body was that which interested physicians, who thought then, as they do now, that deep insight into anatomy and physiology would lead the way to the cure of disease, while no effort was made to study the effects of drugs and other therapeutic agencies. "What we are searching for is proof of positive curative power of drugs,—proof based upon direct induction, not on conclusions drawn from tradition." One question arises: Had the ancient traditions and beliefs which they begot suddenly ceased to exist in the beginning of this century? No, they were present everywhere, and physicians shared them. The faith and belief that medicines may and do cure, was an accepted axiom; all held fast to it, and none more so than Hahnemann himself. Would Hahnemann have conceived of the principle (S. S. C.) which he formulated if he had not been possessed of the time-honored hereditary belief in medicine? His reformatory idea was born of this belief. What did he demonstrate if he did not seek the specific power inherent in medicines? Starting from his China experiment, and supplementing it by analogous data collected from literature, he thereon founded his system; in his process of reasoning he never doubted the faith that medicines cure, but only found a formula which brought the ancient belief of the curative power of drugs into rational relation with pathological conditions.

Before trying to define "the modern idea of the use of drugs," let us consider for a moment what has been embraced under the term of "medicine" hitherto. "For centuries everything a physician had to learn has been included in that term: but it is time that we should distinguish more carefully, especially now that the art of using drugs, and the art of studying their most extended effects is receiving very little attention in the great medical schools of the world. We read with interest the advancement of pathology, the brilliant classification and diagnostic distinction of disease, but when we endeavor to find what 'medicine' has to do with them, we are greatly disappointed. ."

Therapeutics embrace many things besides hydro-therapy, antitoxines, electricity and even dietetics.

In the middle ages, law, theology, and what was called "medicine" were all or *could* have been contained in one of those large pigskin covered volumes. Now a large building could not hold our medical literature. This comprises anatomy. What that is you all know. There is nothing of medicine in it. Physiology, teaching of the functions of organs, says nothing about medicines or medicine. Chemistry deals with a great many substances used in medicine, but chemistry does not teach the art of using its productions as medicines any more than botany teaches the medicinal use of the plants it describes. Neither is surgery medicine. It is now the most popular way of dealing with diseased organs, but not by the use of medicines, unless we can call the scalpel, the needle and the ligature "medicine." Where surgeons use medicines they do not claim to be practicing surgery; when they are employing the knife, or the ligature, or the needle, they are not giving medicine. Not but that they have the whole of the materia medica to draw upon; when they make use of it then only are they practicing medicine.

Pathology, that vast field occupying so many busy minds, and leading us into the mysterious labyrinths of disease, is not medicine any more than anatomy, physiology or chemistry. Indeed, it is often further from medicine than chemistry or botany; and those who, under the leadership of Virchow, the greatest pathologist of the past century, hope that advancing pathology will lead us to the knowledge of curing disease by medicine, hope in vain. It is only the knowledge of disease, combined with the most comprehensive knowledge of what is "curative in drugs" and other agencies (see § 3 of the Organon) that will lead to the cure of disease.

Many other practices and methods of treating disease, such as hydro-therapeutics, massage, immunization and electricity, while they are very indispensable branches of therapeutics, do not deal with medicine or medicines proper, and in future should not be considered under that name.

It belongs to the future to develop the knowledge of drug power under a most comprehensive general law of cure, and this alone, from a somewhat exalted standpoint at present, deserves the name of medicine. This by no means precludes the other therapeutic branches which I have named. No physician of the present or future will dare to claim that medicine alone, or any other single branch of therapeutics, will suffice to cover the ground of his usefulness; and the time will surely come when physicians will make a distinction between therapeutic methods, and will have their diplomas define their position and knowledge accordingly, giving medicine its proper place among the methods of treating disease.

Before obtaining an idea of the modern use of medicines — now that we have determined what is meant by this term — it will be well to recall what that idea was one hundred years ago. What the use of medicine was at that time none has ever described better than Hahnemann in that inimitable "Review of Physic" contained in the Organon, from which I condense: System had succeeded system. There were theories of disease to which theories concerning the action of drugs was applied. At one time the cry was, "Take care and remove the cause." But they could not find it because it has been and is yet undiscernible. An indigestible meal or a foreign body are seen easily enough, but the actual and remote cause and essence of disease, no matter how carefully and minutely searched for by microscopical examination of histological elements, was then and is now still undiscovered.

There is still much to be looked for back of the microbe. A hundred years ago a theoretically discovered cause of disease was sought to be removed by emetics, purging, venesection, for the removal of inflammation. This was obeying "causal indications," and was called rational. The idea was rational enough, but the method was based on fallacious theories in accordance with which they used what were called repellants, as the exsiccation of ichorous ulcers was attempted by means of astringents, cauterization, etc. "To harmonize with the theory of causal cures, physicians at that time pre-supposed the existence of morbid matter, which they sought to remove by acting upon the kidneys, the skin or the salivary glands." Salivation and diuretics as well as sudorifics were invented; classes of medicine were arranged for this purpose without regard to the other deleterious effects those sudorifics, salivants and diuretics produced. "On this account," says Hahnemann "scarcely anything is found in all works on materia medica, from Dioscorides to those of the present time, regarding individual remedies and the special proper action of each."

Cullen, pretty much as Pedanius Dioscorides, ante-dating Pliny and Galen, was about the only authority on materia medica as a specialty, so was William Cullen, the author of the principal text-book at the end of the eighteenth and the beginning of the nineteenth century. He was as far in advance of Dioscorides as Hahnemann was in advance of his contemporaries with regard to accurate knowledge of drug-effects and the methods of obtaining them.

In order to get a glimpse, at least, of the idea of the use of medicines a hundred years ago we find that, according to Cullen, their effects were due to the sensibility and irritability of the nervous system exerting its influence on the contractile tissues, chiefly the muscular fibres, of the body; this again varied with the different temperaments; it was stronger in youth and weaker in advancing age. The temperaments being dependent on five conditions,—on those of the simple solids; the fluids; on the relation of solids to fluids; on the distribution of fluids; and fifth, on the condition of nervous force.

So far speculation was conservative and moved upon safe ground, but it leaves that ground when we come to the consideration of the uses of drugs. There we find they are divided into twenty-three classes, such as astringents, tonics, embracing all bitters; emollients (water and poultices); sedatives; anti-spasmodics; antacids; anti-alkaline remedies; salivants; emetics; laxatives; diuretics; emmenagogues, etc.

In order to see how these theories work when applied to certain cases of disease, we find them floating in the air; thus Cullen is convinced that Peruvian bark cures intermittents alone by its tonic quality dependent upon its bitter and astringent effects upon the stomach, to which it imparts new *tone* by strengthening its fibres and, thence, imparting *tone* to the rest of the system. There is no use, says Cullen, in attributing a specific effect to bark, when its effect is easily explained by its tonicity.

How this was disposed of by Hahnemann we all know by his historical footnote on p. 109, Vol. II of his translation of Cullen's Materia Medica.

It is interesting to note how laxatives and purgatives were regarded in those days, and that their effects and mode of action were explained and made use of then precisely as they are to-day. Their action was local and remote, unloading the intestines and acting as depletents, also as derivatives, by lessening the blood pressure in certain parts where it was supposed to be excessive. Some were considered more active or stronger than others, but anything like a peculiar or specific effect, or their effect upon other organs besides the intestines, was not taken account of.

It is always interesting to seek for the explanation of tonics. It is asserted that astringency and tonicity are not identical, (Hahnemann's Trans., Vol. II, p. 64) and that there are tonic medicines which have no astringent effect, but whose effect is attributable to their bitterness alone; but they unfortunately often possess other qualities, narcotic, irritant, laxative, or otherwise, which prevent their use as tonics unless we select the "pure bitters" free from other objectionable effects. They cure by "strengthening the tone of the muscular fibres of the stomach." What a convenient idea this was, applying with perfect elasticity to the cure of intermittents as well as dyspeptics. This idea has been handed down to the present day, when not only in the popular mind but that of medical men also, the stomach is often named as the source of almost any complaint, and the popular cry is for "tonics," with this difference that one hundred years ago they meant some "bitters," now they mean whiskey.

Straws show which way the wind blows. This sketch assuredly transgresses the time allowed me, therefore it is possible now only to sketch the most important points very briefly. What remains to be said is what the idea of medicine was fifty years ago, and what it is to-day.

In 1846, John Forbes, M.D., F. R. C., published an article entitled, "Homœopathy, Allopathy and Young Physic," which, (though a reply criticising William Henderson, M. D., of the University of Edinburg, who wrote "An Inquiry into the Practice of Homœopathy") is, next to Hahnemann's "Review of Physic," the best essay on that subject ever written. While it touches upon some alleged weak points in homœopathic practice, it also most candidly exposes those of Allopathy, and furnishes some of the best material for the comprehension of the idea of the use of drugs at that time. I can only extract a few short passages to show the prevalent idea. This was "heroic bleeding and mercurialization," compared with which the results obtained by Drs. Fleischmann and Henderson may indeed astonish our heroic bleeders and mercurializers, or may even turn them, being so full of faith in drugs, to the pole opposite to heroism—Homœopathy itself. To the truth of Homœopathy, Dr. Forbes opposes much specious reasoning, claiming for its cures the aid of the powers of nature only (940). In addition to this, Dr. Forbes tells us (949) that a large proportion of men of science "in the latter part of their career abandoned much of the energetic and perturbing" medication of their early practice and trusted greatly to the remedial powers of nature. "But while we are thus exalting the powers of nature at the expense of Homœopathy, are we not, at the same time, laying bare the nakedness of our own cherished Allopathy? . . . that the treatment of every disease on the ordinary plan must, at the very best, be useless, while it inflicts on our patients some serious evils (that Homœopathy is free from), such as swallowing of disagreeable and expensive drugs and the frequently painful and almost always unpleasant effects produced by them during their operation?" This dilemma, by the way, Dr. Forbes manfully admits, but does not seem to escape from it when he says that "in a large proportion of the cases treated by Allopathic applications the disease is cured by nature and not by them. . . . In a somewhat smaller proportion, the disease is cured in spite of them, . . . consequently in a considerable proportion of diseases it would fare as well or better . . . if all remedies . . . especially drugs were abandoned."

The idea of the use of medicines fifty years ago is further illustrated by a few passages which are here condensed: "To be satisfied on this point (the proportion of cures) we need only refer to the history of one or two of our principal diseases, as, for instance, fever, pneumonia, syphilis." "In these, the author tells us, that antimony and blood letting are being discredited (by Louis and others in *Recherches sur les Effets de la saignee*, Paris, 1835); likewise mercury in syphilis. . . . Physicians of long experience adopting a mild and tentative or expectant mode of practice. . . . We doubt, therefore, if we should greatly, if at all, exceed the bounds of truth if we said that the progress of Therapeutics, during the centuries that have elapsed since the days of Hippocrates, has been less than that achieved in the elementary science of medicine during the last fifty years. The department of medicine must, indeed, be regarded as yet in its infancy, . . . that much of the practice of medicine, in as far as it exists in the administration of drugs, is a system of traditional routine and conventionalism, haphazard and guesswork."

This is the idea concerning medicine of one eminent physician and was soon voiced by another, dedicated to Dr. John Forbes* in 1853.

In order to get the idea of another exponent of medicine more than forty years ago, a few short passages must be cited here.

"The artificial method of treatment is founded on the assumption that disease can be removed by artificial means. . . . It was only necessary to subdue the inflammation, to expel the morbific matter, to regulate the secretions, to improve nutrition and to restore strength, and the business was at once accomplished. . . . The destructive tendencies of disease, and the supposed proneness to deterioration of nature herself, was opposed by copious and exhausting depletion, followed by a shadowy array of alteratives, deobstruents and tonics. Confinement by disease which might have terminated in a few days was protracted to weeks and months. . . . When carried to its 'heroic' extent, artificial medicine undermined the strength, elicited new morbid manifestations, and left more disease than it took away. The question raised was not how much the patient had profited under his active treatment, but how much more of the same he could bear."

"A considerable amount," continues Dr. Bigelow, "of violent practice is still maintained (1858) by routine physicians. Edged tools are brought into use as if they could never be anything more than harmless playthings. It is thought allowable to harass the patient with daily and opposite prescriptions; to try, to abandon; to re-enforce and to reverse; to blow hot and cold on successive days, but never to let the patient alone nor to intrust his case to the quiet guidance of nature. Consulting physicians frequently and painfully witness the gratuitous suffering, the continued nausea, the prostration of strength, the prevention of appetite, the stupefaction of the senses, the wearisome days and nights which would never have occurred had there been no such thing as officious medication. . . ."

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*Brief expositions of Rational Medicine in Modern Inquiries. By Jacob Bigelow, M. D. Little, Brown & Co., 1867.

Enough of this idea of medicine a hundred years ago, and forty years ago. The above words were strong and convincing, and it seems as if Hahnemann himself had written them, so closely do they compare with passages from his famous "Review of Physic." Indeed, there is a strong probability that that Review was carefully read by both Drs. Forbes and Bigelow, who involuntarily fell into the spirit of it and straightway quoted the sense if not the precise words. Such is the contagiousness of vivid writing.

Notwithstanding this sketchy and almost garbled attempt at a description of medicine in the past hundred years, it has already overstepped the bounds of time allotted to it, and still the idea of medicine of the present day remains to be touched upon, also its comparison with the past. Omitting for the present hydro and electro-therapeutics as well as immunization by toxines, we will glance at medicines and the modern idea of medicines. We will at once draw for inspiration upon one of the latest text-books of practical therapeutics.* Here we read: "The definition of the word 'therapeutics' in Billings' dictionary is: 'that branch of medical science which treats of the application of remedies to the cure or alleviation of disease,' and, practically, the term is almost universally used to signify the employment of drugs for such purposes. . . ." Again, "In the language of one of the most progressive medical men of to-day in the United States, the man who does not believe in the proper use of drugs for the cure of disease must lack the very keystone of the arch upon which all medical knowledge rests."

There we have it again—belief in the action of drugs, the ancient belief which was handed down to Dioscorides, Pliny, Galen, Paracelsus, Hahnemann. That part of it remains to-day as it was hundreds of years ago. But the point for the knower of things to decide is, how was it ever discovered that medicines cured? Was fever questioned much? But that attribute of drugs seems to have been taken for granted. Hahnemann never doubted that Cinchona cured fevers; he only maintained that it did so by virtue of its power to produce similar fevers, and he gave the world-old axiom, rule or law, according to which medicines could be used. This is also a modern idea of the use of drugs. It has stood the test for a century. But there are other ideas of the use of drugs and ideas regarding their mode of action. "Drugs," says our text-book, "act in two ways, which are sometimes called near and remote, or direct and indirect. The near or direct action of a drug is that influence which is felt by the exercise of its effects directly upon the tissues with which it comes in contact; the indirect, or remote, influence is that result which comes as a sequence of its primary effect. As an illustration of this we may take the local use of Cantharides. The local, near, or direct effect of this is a blister; the remote or indirect effect is the absorption of exudations, or the influencing of inflammatory processes. If Pilocarpine is used, its direct effect is the sweating which ensues, the indirect effect is the relief of dropsy (sic) through the removal of exudation by the increased action of the skin, salivary glands and kidneys." So say the books.

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*A Text-Book of Practical Therapeutics. By Robert Amory Hare, M. D. Lea Bros., 1894.

Here we have Hahnemann's axiom of *similia similibus curantur*, and also that of the dominant school. This, as expressed in Dr. Hare's book, is very disproportionate to the 2,400 odd medicines enumerated. Many of these evidently cannot act according to the simple rule of direct and indirect action; and Dr. Hare does no injustice to the knowledge of that school by seemingly making his explanation of the action of drug apply to the whole list. Opium certainly does not act in that way, neither does mercury or digitalis, whose great and specific actions are well known to depend upon their primary and secondary *tonic* effects, which is a very different matter than direct or indirect or simply irritant effects, where usually the primary effect is the opposite of the secondary effect.

We are able to derive a very correct idea of the present use of drug or medicines when we take down any modern text-book on materia medica.* Here we learn incidentally that, although the principle of antagonism (allopathy) is denied, it forms, as will be shown directly, the basis of modern "regular" practice, and we also learn that this practice rests on a rude classification of drugs arranged so as to make the roughest tonic effects of a drug fit into a certain class, entirely regardless of its other qualities and effects. A cathartic is supposed to have no other effects; a tonic simply strengthens regardless of other toxic effects: an alterative simply alters, etc. In nature there are no such classes.

In our idea of modern medicine we adhere to the maxim, *similia similibus*, which, if not universal, certainly applies to a great many drugs. The "regular school," on the other hand, repudiates any law or principle, especially the term *allopathy*, etymologically well constructed to mean that the Galenian principle of contraries still prevails, as can be plainly demonstrated. Thus they classify their medicine into about twenty-seven classes, most of which begin with "anti," and all the rest denote acceptance of antagonism,* or a contrary condition to that for which they are given. As such we have "antacids," "anthelmintics," "antiseptics," "antiperiodics," "antipyretics," "counter-irritants," etc., and still they claim that they have no such thing as an Allopathic principle.

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*Bartholow.

They have numerous other classes, such as "alteratives" and "tonics," and these names drag themselves along through every text-book without a sign or an attempt to explain why certain drugs are classified as tonics and others as alteratives; why, for instance, colchicum and iodiform are alteratives, and cinchona, copper, nitric acid, etc., are tonics. Although these names do not begin with "anti," these drugs are plainly directed, according to the rule of contraries, against the condition for which they are prescribed, and it must be borne in mind that those conditions are mostly conceived in the mind of the prescriber who has to invent a condition to which his theoretical antagonist can be directed.

We differ with them in this in that we aim to avoid all supposititious states and theoretical actions of drugs; we endeavor to elicit hard facts, well and positively known signs (symptoms) as indications to which we oppose equally well known effects of drugs. It is also true that this opposition of drug-effect to disease-effect involves a certain principle of antagonism, although we *select* according to similars; the curative action must be antagonistic in some way. This is *our* idea of medicine.

There is one more modern idea of the use of medicine to be considered just for a moment, although it requires more time and space.

The usual text-books like the U. S. Dispensatory, often allude to the drug effects as physiological,† only rudely to be distinguished from their toxic effects, and these again from their therapeutic uses. All this rests upon the same illogical theory as their classification according to theoretical action.

We hold it easily demonstrable that there are no medicines—as there are none in the U. S. Dispensatory—the healing effects of which are not attributable to their pathogenic, that is, to their sick-making power. (Lect. II, p. 24-6.) This difference of opinion is due to the question as to what is physiological and what is pathological or toxic. . . . If belladonna paralyzes the inhibitory nerves of the heart,

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*Bartholow. Lect. VI., p. 84, etc.
†U. S. Dispensatory, p. 1272. Bartholow Mat. Med., p. 160, 179, 299.

that is always toxic and pathological; if curare produces paralytic inertia, it is toxic and pathological. If digitalis produces slowness of the heart, or if alcohol increases its action and excites the brain; if opium produces somnolence and insensibility to pain, these are *never* in any sense *physiological* actions. This would mean normal, healthy, functional action, while all those drug effects cause abnormal activity, differing essentially from healthy functional activity.

To draw a true balance between physiological and toxic effect, is simply impossible; to call the more universal effects after moderate doses physiological and the more dangerous effects toxic is merely an arbitrary distinction without a principle.

But enough of this. Here we are at the beginning of a new century with the ideas of the uses of drugs but very partially developed, our doctors divided into sects on matters of opinion and belief, not on knowledge.

CHEST DISEASES IN 1800 AND IN 1900.

BY HERBERT C. CLAPP, M.D., BOSTON, MASS.

The chairman of this bureau has asked me to write upon this subject, thinking it an appropriate one for the first year of the new century. Since any essay approximating a complete exposition of it would fill a book, I will merely ask you to take a few glances here and there, to look on this picture and then on that, and for the most part to draw your own conclusions.

In 1800 a medical student coming up for examination on the subject of heart disease must have had a very easy time, after a " snap course." In fact, the works on practice, printed about that time, which I have consulted, contained little or nothing on the subject.

They did dwell on dropsy, which, as everybody knows, may or may not be connected with some form of heart disease, but no distinctions were made. A few words were said on the pulse and circulation, but very little else that was practical.

Hippocrates and Celsus thought heart disease impossible, as the heart was the centre of life, and disease of the heart was incompatible with life itself. What we now consider symptoms of heart disease were by the ancients interpreted as symptoms of disease of the lungs, nerves, etc.

The first great advance was made by Vesalius, when in 1543 he gave a clear description of the anatomy of the human heart.

The next important step was taken by Harvey, who in 1628 described the circulation of the blood, although, queerly enough, this great discovery had no effect upon the clinical study of heart disease for very many years.

The real birth of the science of heart disease was possible only after the discovery of auscultation and percussion, which was made in the century which has just ended.

Although Auenbrugger had in 1761 published his little book on percussion, this new invention at the time attracted no attention whatever; and it was not until 1811 that Corvisart exhumed the book, translated it into French, and demonstrated the importance of the subject, although the full value of percussion was only appreciated by Piorri in 1840.

The greatest discovery of all, however, so far as heart diseases are concerned, was that by the illustrious Laennec in 1816, of auscultation, of which he was the originator, and which he brought to a wonderful state of perfection.

Then, and then only, can it be said that the real science of cardiac disease was born. And so, when asked what progress we have made in this branch during the last century, we have to answer that there is no contrast at all. From nothing it has grown to everything, especially in pathology, ætiology and diagnosis. Although in the treatment of its advanced stages our progress has shown little to boast of, yet our increased knowledge now enables us to make the treatment in the earlier stages and the preventive treatment of great importance.

As to the development of knowledge regarding the lungs, bronchi and pluræ, the introduction of auscultation and percussion in the early part of the nineteenth century was also of great (although less) value.

Much was known about diseases of these structures before, even from the earliest times. But, on the other hand, much was a confused jumble of ideas waiting to be cleared up by a nicer differentiation based on more exact methods of diagnosis. Pneumonia and pleurisy were often mistaken for each other, phthisis and bronchitis, phthisis and empyema, phthisis and asthma, to say nothing of the intermixture of outside diseases, as asthma and heart disease, for example. Koch's tubercle bacillus, announced in 1882, has afforded considerable help in differentiation, and the Roentgen rays a little. Of more value than either has been the clinical thermometer. A better diagnosis has naturally paved the way for a better treatment.

By far the most effective agent in the nineteenth century in improving the treatment of disease was Homœopathy, which in 1800 was not known in America, but was beginning to make itself felt in Germany. Its value, as shown to the world, has been both negative and positive; negative, as showing that patients could get well without the crude polypharmacy, the bleedings, blisters and gigantic doses of drugs given in 1800; and positive in showing that medicine given in this way had real and true curative powers. Its negative value, which alone was acknowledged to any extent by physicians who were not its advocates, enabled the expectant school to do far better work than the more zealous but regular routine practitioners. Pneumonia is the disease beyond all others in which, undoubtedly, Homœopathy has proved its greatest worth, and the contrast between the two schools at the beginning of the nineteenth century was far greater than at its end, on account of the change of base in the Allopathic school, induced to great extent by the revelation of the powers of nature in curing disease afforded by Homœopathy.

Now let us take a few glances at the common treatment of some of the diseases of the chest, as practised one hundred years ago, comparing them mentally with the present treatment, with which we are all familiar.

In a monograph on consumption, published in London in 1811, by Dr. Richard Reece, and dedicated to his Royal Highness George, Prince of Wales, who gave his name and protection to a Phthisical Dispensary founded by Dr. Reece in 1805, with William Wilberforce as President, and many patrons among the nobility, the author advises, among other remedies, blood-letting, sweating and mercury either by mouth or by inunction. Purging he recommends, because "nothing so much aggravates the diseases as costiveness. In the first stage of the malady a blister or a seton is a remedy indispensably necessary. . When the scrofulous diathesis runs high and a sufficient discharge is not promoted from the blister, a seton affords a more enlarged means of answering the same intention. To most patients under the disease this appears a severe remedy. It is, however, one of the first consequence, if resorted to before the structure of the lungs has received much violation. In this early period it keeps down that fulness of vessels which favors the progress of suppuration. It does powerfully correct the scrofulous diathesis. . . When the system is quieted by the foregoing remedies, an emetic of ipecacuanha I have found very beneficial. . . The diet should be such as tends to allay irritation and to abate the ignition of the system. Spirituous and vinous liquors should be strictly prohibited, as well as animal food in solid form."

Dr. William Buchan, in the twelfth edition of his work on medicine, published in London in 1791, in speaking of the treatment of consumption (which disease, he says, is seldom cured), strongly recommends asses' milk, which he thinks would produce extraordinary effects if taken early enough, and in sufficiently large quantities. "But," he adds, naively, "if it be delayed till an ulcer is formed, which is generally the case, how can it be expected to succeed?"

He next goes on to say: "Some extraordinary cures in consumptive cases have been performed by women's milk. Could this be obtained in sufficient quantity, we would recommend it in preference to any other. It is better if the patient can suck it from the breast, than to drink it afterwards. I knew a man who was reduced to such a degree of weakness in a consumption, as not to be able to turn himself in bed. His wife was at that time giving suck, and the child happened to die, he sucked her breasts, not with a view to reap any advantage from the milk, but to make her easy. Finding himself, however, greatly benefited by it, he continued to suck her till he became perfectly well, and is at present a strong and healthy man." At this day our comment on this story might be,—*Haec fabula docet* that a kind act may sometimes prove a boomerang. The chapter ends thus: "Before we quit this subject. we would earnestly recommend it to all, as they wish to avoid consumptions, to take as much exercise without doors as they can, to avoid unwholesome air and to study sobriety. Consumptions owe their present increase not a little to the fashion of sitting up late, eating hot suppers and spending every evening over a bowl of hot punch or other strong liquors. These liquors, when too freely used, not only hurt the digestion and spoil the appetite, but heat and inflame the blood and set the whole constitution on fire."

The disease empyema has been known for many years. Indeed, even Hippocrates seems to have had about as much knowledge of it as anybody down to the time of the discovery of auscultation and percussion, less than a hundred years ago. The operation as performed today, if done at the right time, saves a very large percentage of its victims; whereas, on account of the difficulty of recognizing the disease in 1800, and the crudity and bungling of the operation for letting out the pus when discovered, empyema was a very fatal disease one hundred years ago. So much so that Dr. R. Brookes, in his Practice of Physic says that: "Sharp has no good opinion of the operation, for he says he has opened several persons, who have died of consumption of the lungs from an abscess which had consumed a great part of the lungs, and he does not remember to have found any pus lodged in the thorax."

"Besides," continues he, "it is evident that many who die consumptive, die of the discharge they spit up from the lungs, and, therefore, we ought not to undertake any operation which promises so little success. There may, I own, be abscesses formed between the lungs and the mediastinum which may fall into the cavity of the thorax; but then if the pus is small in quantity, it may be absorbed by the lungs themselves, and, if there is much, the operation will be of little service. Besides, these cases are very rare, and the symptoms of pus being fallen upon the diaphragm are very equivocal, and, therefore, I think the operation should be omitted, though the empyema is supposed to actually exist."

I have in my library, in the Latin language, Van Swieten's Commentaries on the Aphorisms of the great Boerhaave, the learned Professor of Physics in the University of Leyden, published in Paris in five large and handsome octavo volumes, the last of which appeared in 1773, the publication of the whole extending over five years. This was one of the great classics and authoritative for the physicians of the year 1800.

In his essay "Of the Empyema" he says in one place: "But since it is necessary for the said matter in the breast to be discharged by the paracentesis or incision, if it procures not other passages for itself, therefore it is required of the physician to know in which side of the thorax the matter lies; the fluctuation or rattling of which in the breast is sometimes perceived by the patient in turning around in the bed, and even sometimes the collision of the matter is audible to those who attend the patient."

"For determining this point, therefore, Hippocrates orders the patient to be set fast in a chair; that while one holds his arms, the physician may shake him and, at the same time, hearken, with his ear near to the side, in order to perceive the collision or rattling of the matter collected in either cavity of the breast. But then he also intimates, at the same time, that the great thickness or excessive quantity of matter may sometimes hinder any rattling of the matter from being heard, when the breast is yet full of matter. . . . When a great rattling or noise of the matter is perceivable upon shaking the shoulders of those who have an empyema or broken suppuration in their breast, the quantity of said matter is less than in those in whom it makes but little noise or fluctuation, if, at the same time, they have also a more flushed color of their countenance. But in such as have no rattling of the matter, but only a violent difficulty of the breathing, with a livid color of their nails, these are quite filled with matter and in a deplorable condition."

What a contrast to the modern methods of diagnosis, and how they did allow the golden opportunity for a successful operation to slip by!

A few years ago a man in Canada, having a worthless eye, was advised to have it enucleated; but the operating oculist, when the patient was anæsthetised, carelessly removed the wrong eye. Our author, perhaps having a similar catastrophe in view, goes on to say how it may be avoided in empyema: "But since it is of such importance to the physician to know for certain in which side of the thorax the matter is contained, Hippocrates has, therefore, made it his business to collect together all the signs, and has attempted the practice of diverse artifices by which a firm or sure diagnosis might be obtained Accordingly, he observes that the side of the thorax which contains any considerable quantity of matter, so as often to yield no rattling noise from the fulness, does thence appear more enlarged or swelled than the other opposite side, which is a circumstance confirmed after him by the observations of modern surgeons."

The most curious diagnostic proceedure is this: "But because the affected side grows hotter than the other, therefore he advises the whole thorax to be wrapped up in thin linen that has been dipped in liquid bole or red earth, dissolved and rendered very fine and thin by trituration, and then directs the incision or cauterization to be made in the place that appears the soonest dry; or else he likewise advises the whole naked chest to be anointed with the like red liquid, that the place may appear where it is soonest dried up. But then he prudently cautions that in this case several hands must be employed to anoint the breast all over at once or in an instant, otherwise a mistake might arise from the part which was first wetted appearing sooner dry than the rest."

Later he says that where it is not quite evident just where the seat of the vomica is, some physicians are accustomed to cauterize several outward parts of the thorax, thinking that some one will hit the case, or to apply emollient poultices with or without first cutting the skin, hoping to entice the matter out at one of these spots after a while.

Much more of interest might be quoted from these old books, but perhaps this will suffice.

SERUM-THERAPY, AND THE ANIMAL EXTRACTS.

BY JOHN P. SUTHERLAND, M. D., BOSTON, MASS.

If the title of my paper were to accurately index its contents, it would read, "What I do not know about Serum-Therapy." For of the knowledge born of actual experience I have little or nothing to offer you. Yet I accepted our chairman's flattering invitation to present a paper on "Serum-Therapy and the Animal Extracts," soothing my conscience with the reflection that I should acquire much valuable information in the effort to prepare the paper, and the Society would have a like privilege in listening to the discussion.

The term "Serum-Therapy" signifies the use of a blood serum in the treatment of diseased conditions, although it has been extended to include the use of a serum for the purpose of rendering man, or an animal, immune to a certain disease, or cause of disease. The theory itself is one of the marked products of the last quarter of the last century. It is the direct outcome of the modern laboratory, the result of scientific experimentation, the lineal descendant of the "Germ Doctrine." Its scientific basis is expressed in the axiom, "Infectious diseases are caused by germs." Few now deny the claim that micro-organisms are the exciting factors in the production of many diseases, and it is useless, at this time, to discuss the relative potency of micro-organisms and their toxic products as exciting causes.

Recognition of the pathogenic power of microbes has led to the improved technique of modern surgery, whereby results at once so brilliant and so beneficent have been made possible. It has been said that at least two things are essential to the production of a crop, viz.: seed and soil. In the case of the infectious diseases pathogenic bacteria are the seed, the susceptible animal organism the soil.

With this idea as a basis, efforts were made to explain natural recovery from infectious diseases and the immunity thereby acquired. A person who recovers from an infectious disease is exempt from that disease for a certain time, which may be short, perhaps a year, as in diphtheria, or life-long as in the case of measles, scarlet fever, etc. Various theories have been propounded to account for this immunity. Pasteur supposed that during the multiplication of these pathogenic micro-organisms in the animal body, they exhausted some substance necessary for their maintenance and then ceased to grow and the person or animal recovered, being consequently immune. Chauveau, however, contended that in their growth micro-organisms threw out some substance which accumulated to such an extent in the animal as to further prevent their development, and the animal recovered and was immune. Metschnikoff supposed it was due to the action of the white blood corpuscles,—in this connection called phagocytes. But these and sundry other chemical and physiological theories have been found to be erroneous. The accepted theory now is that there is produced in the recovered animal, by such recovery, "anti" bodies or substances which are opposed to the poisonous, or toxic, products thrown out by the growth of germs in the body, and these substances are termed anti-toxins.

I shall not occupy your time by discussing the value of the chemical and physiological theories propounded in explanation of recovery and immunity, but will summarize the results of such discussions in the following statements:

A child who recovers from diphtheria has the antitoxin of diphtheria in its blood as a result of such recovery; and as long as the antitoxin remains, the child will not take the disease again but will be immune. An animal that recovers from the injection of the product of growth of a culture of diphtheria also has the antitoxin of diphtheria in its blood. A person or an animal recovered from tetanus has the antitoxin in the blood, and the presence of this antitoxin protects against another attack. A person can have as many antitoxins in his blood at the same time as the number of infectious diseases from which he has recovered. A person can be immune from small pox by recovery and yellow fever by recovery, and have at the same time antitoxins of both diseases in his blood in preventive or immunizing amounts.

It was but a short step to assume that the blood of a person or animal thus immunized against a certain disease, if injected into the blood of a person or animal suffering from that disease would neutralize the virus and prevent its action. Bacteriological investigations were not slow in putting this idea to the test, and many experiments were made resulting in what seems to be proof that the blood-serum of animals artificially immunized against certain diseases, contains a something which is "germicidal" to the micro-organisms producing such diseases, or which antidotes the poisonous product of these special micro-organisms.

It is a well-established fact that all kinds of germs do not act in the same way, in producing disease. Some are strictly parasitic, having a habitat in certain tissues or organs of the body, and living at the expense of their host; interfering with the performance of the function of the part infested, thus producing disease. Other kinds are pathogenic not by direct action, but by the production of a poisonous something—(toxin,)—as the result of their life's activity. This poisonous something—(toxin,)—need not be produced in the living organism;—it can be artificially made by cultivating the germ in a suitable culture-medium. The toxin thus artificially produced is as virulent as the toxin produced in the living organism; and its injection into a living organism is followed by the train of symptoms attributed to the germ itself. Very few, however, of the pathogenic germs produce soluble toxins. Among those that do, the diphtheria and tetanus bacilli are peculiarly prominent from the fact that the blood-serum of animals artificially immunized against diphtheria and tetanus contains a *true anti-toxin:* and these anti-toxins have been used very widely as therapeutic agents.

The diphtheria anti-toxin is the best known, from having been the most universally used of the entire group of serums. The specific bacillus of diphtheria was recognized by Klebs in '83; cultivated and described by Löffler in '84; in '91 Behring commenced his experiments upon diphtheria immunity, and almost immediately thereafter anti-diphtheritic serum formed one of the most prominent subjects of discussion in lay as well as medical literature. Such has been the influence of newspaper and literary magazine articles on the minds of the laity, that now in the majority of cases a physician is looked upon as culpable by the friends and relatives of the patient if he fail to use "antitoxin" as soon as the diagnosis "diphtheria" is made, and families readily submit to prophylactic injections of the anti-toxin, if any member be stricken with the disease. It did not require a decade to arouse adverse criticism of the treatment, but the probability is that such injury as has been traced to the use of the anti-toxin, has been due to the preservative used, the pure and unmedicated anti-diphtheritic serum in common with other anti-toxic serums being innocuous. "The anti-toxin treatment of diphtheria" was the subject of a paper presented to the Society yesterday evening, by Dr. Goodno, and thus requires no further consideration at this time.

"Anti-tetanic serum" is a true anti-toxic serum, prepared in a similar way to the anti-diphtheritic serum. Tetanus, however, is a comparatively rare disease, and experience in its treatment is not sufficiently wide to enable one to authoritatively judge as to the efficacy of this serum. Theoretically it must be of value, and the claim is made (Therapeutic Notes for Feb., 1901,) that anti-toxin therapy has reduced the mortality in this disease from 90 per cent. to 40 per cent.

"Anti-streptococcic serum" demands a moment's consideration. Animals are immunized by the injection of living virulent streptococci, instead of by the use of gradually increasing doses of attenuated virus, or toxin. It is called an anti-mycotic, or anti-mycetic instead of anti-toxin serum, because it arrests and prevents the growth of the germ rather than antidotes its toxin. It is recommended as useful in scarlatina, erysipelas, chronic otitis media, puerperal septicæmia, pelvic inflammations, post-operative sepsis, septic cellutitis and mixed infections; and several cases of cerebro-spinal meningitis, are recorded as having been cured by it. Unfortunately, there are several varieties of streptococci, and the serum of one variety is not protective against another variety. The serum is therefore called "an experimental remedy, the exact value of which remains to be determined." As to scarlet fever and erysipelas the writer is justified by his experience in feeling that he has reliable remedies to make use of, but he acknowledges the painful and lamentable fact that he has seen several cases of various forms of meningitis and septic infection within a few years which have proved fatal. And within three months he has seen two fatal cases of meningitis, (one following a pneumonia and the other following grippe) and a fatal case of streptococcic infection, with multiple abscess, in which he regrets not having used anti-streptococcic serum.

"Bubonic plague serum" is said to be "mildly protective, but not curative." "On this side of the water" it does not attract the attention it did six months or a year ago, and may be classed with anti-typhoid, anti-cancer, anti-rabic, anti-tubercle, anti-pneumococcus, yellow fever and cholera serums, all of which are under experimental investigation with more or less promise of ultimately developing a degree of usefulness as preventive or curative measures.

"Anti-venomous serum" or "snake anti-toxin" is to be classed with the anti-toxins of diphtheria and tetanus in point of preparation and efficacy, if reports from India are reliable. In New England snake-bite is not of as frequent occurrence as it is in some parts of our broad country, but this may be due to the traditional potable and highly palatable prophylactic which fishermen and sportsmen usually take with them in liberal quantities on their expeditions and without which no kit is complete.

It seems but yesterday that the whole world was excited over the announcement that tuberculin or Koch's lymph would cure tuberculosis. Many high hopes were ruthlessly dashed to the ground by the failures which followed the trials to which the lymph was subjected. From a state of hopeful anticipation public and professional opinion swung to the limit of pessimism and scepticism, and bacteriological investigators came near meeting a Waterloo, so that the later discoveries along the line of serum therapy worked hard to obtain a hearing. A point to bear in mind is that tuberculin is a toxin, not an anti-toxic serum, and its use at the present time is chiefly for diagnostic, not therapeutic, purposes.

From the historical point of view "vaccination" is a practice of too great importance to be overlooked in this connection, but the production of vaccina by the use of the lymph of cow-pox vesicles is nothing more or less than prophylactic inoculation, the descendant of the time-honored oriental custom of small-pox inoculations. And while the practice unquestionably had great influence in determining the trend of medical thought and laboratory investigations of the last century it cannot claim attention as an instance of serum therapy.

You are all familiar with the method of treating inoperable malignant tumors by the hypodermatic use of "Coley's Mixture,"—but you may not all be familiar with the story of the discovery and perfection of the method. Here we are dealing, not with an innocuous anti-toxic serum, but, as in the case of tuberculin, with a poisonous substance produced by germs—a "toxin."

"A number of observers having noted improvements and occasional cures in malignant tumors from an intercurrent attack of erysipelas, Coley and others attempted to follow this indication by inoculating erysipelas on to the region of the tumor. The method gave very promising results, but proved impracticable on account of the frequently fatal issue of the erysipelas. In 1894 Coley proposed to modify the method by using the toxins, the germs themselves having been removed."

Later he made use of unfiltered cultures containing the dead germs, the germs having been destroyed by heating the cultures to a temperature sufficient to render them sterile (58° to 60° C). It was Coley who first tried a combination of erysipelas streptococcus and bacillus prodigiosus, it having been discovered that the bacillus prodigiosus, *a non-pathogenic organism*, possessed the power of increasing the virulence of the erysipelas germ. After prolonged investigation and experience Coley's own conclusions are as follows:

"1. The mixed toxins of erysipelas and B. prodigiosus exercise an antagonistic and specific influence upon malignant tumors, which influence, in a certain proportion of cases, may be curative.

2. This influence is slight in most cases of carcinoma (including epithelioma); most marked in sarcoma, but varies with the different types, the spindle-celled form showing by far the greatest influence.

3. The action of the toxin is not merely local in character but systemic.

4. The toxins should be used only in clearly inoperable cases, or after primary operation to prevent recurrence.

5. The results will vary greatly with the strength of the preparation, the most virulent cultures giving the best result."—*Am. Journal of the Medical Sciences*, Sept. '96, reprinted by Parke, Davis & Co.

My experience with "Coley's mixture" has been limited to one case of multiple sarcoma of the "spindle-celled" variety.

The use of "Animal Extracts" for one purpose or another is as old as the human race. The aboriginal American ate the hearts of brave men, when he could get them, to make himself brave (to cure cowardice). Domestic medicine prizes highly such remedies (simples) as snakes' skins, skunk's oil, goose oil, etc. Two hundred and fifty years ago blood prepared in a certain manner was considered a remedy "of excellent virtue, which, being taken inwardly and applied outwardly, easeth pains, and cureth most diseases." "Elixir of Mummie" (man's flesh hardened) was thought to be "a wonderful prevention against all infections." The "Essence of man's brains," made from the "brains of a young man, that hath died a violent death, together with its membranes, arteries, veins, nerves, and all the pith of the back-bone," was looked upon as "a most infallible medicine against the Falling-sickness." A famous "Spirit of human sculls" was used as "a kind of *General Panacea.*" "Oyl of Snakes and Adders" did "wonderful cures in recovering hearing in those that be quite deaf." "Bears' Balsam," made from bears' feet, was looked upon as "an incomparable balsam to apply for Stiffness, the Gout and Palsie." The "Quintesssence of Snakes, Adders and Vipers," made from "the biggest and fattest Snakes, Adders and Vipers" to be obtained in June or July, was said to be "of extraordinary strength and virtue for the purifying of the blood, the flesh, and the skin; and consequently cleanseth of all diseases therein. It cures also the Falling-sickness, . . . and strengthens the Brain, Hearing and Sight, and preserveth from gray hairs; reneweth the old to Youth, preserveth Women young, cureth the Gout and Consumption; and it is good against Stings, Bites and Pestilential infections." Do not smile too incredulously at these things. Have we not before our memories, as it were but yesterday, the wild, enthusiastic rush that was made for Brown-Séquard's famous "Elixir?" And have we not *today*, in this our country of advanced civilization, an "American Animal Therapy Association?" In the Journal of this Association we read much about a wonderful "Lymph Compound" which contains the following ingredients, taken from seven-months-old goats: "lymph, taken from the thoracic duct and lymph glands; extracts from lymphatic glands, and of the gray matter of the cerebrum, medulla, cord and testicles. Ingredients from bulls: . . . Semen, taken chiefly from globus major and minor. The menstruum is composed of blood serum, diluted with carbon water, and the entire compound is preserved from coagulation by the addition of a very small amount of chloride of gold and sodium, from which the irritating properties have been taken." This is the powerful modern "tonic to cell-function, and reconstructor of cell-structure." The list of diseases for which this newest lymph compound is confidently recommended, is far too long to quote. It is suggested, merely, by the index of any work on pathological conditions. Who says that the ancient alchemist died without heirs?

Truly the medical experiences of our generation, bears witness to the truth of the axiom that there is nothing new under the sun!

The term "animal extracts," as used today, refers chiefly to the thymus, thyroid and supra-renal glands, and the preparations made from them. Extract of thymus gland is said to cure exophthalmic goitre. At all events it has been used in the treatment of both simple and exophthalmic goitre with some success. Supra-renal extract is said to be "the most powerful astringent and hæmostatic known." Congestion of every organ to which it can be applied, "is relieved by the external use of the extract. . . . It benefits all forms of inflammation, in all parts of the body. . . . And it is the strongest known stimulant to the heart." These facts we learn from the *Medical Age*, April. 1900. The gland has been used in the treatment of Addison's Disease, diabetes mellitus, exophthalmic goitre, various forms of heart disease — mitral and aortic,— and the following are some of the conditions for the relief of which supra-renal extract has been successfully employed as a local application: Urethal stricture, intertrigo, hay fever, epistaxis, laryngitis, conjunctivitis, rhinitis, acute catarrhal otitis, middle-ear congestions and granulations, and acute inflammation of the drum.

Not the least important application of supra-renal extract has been for the blanching of the tissues prior to surgical operations, such for example as the removal of polypi or spurs, anterior turbinectomy, division of adhesions, buccal curettage, tonsillotomy, etc. It makes a bloodless field; and, although some complaint has been made of secondary post-operative hemorrhage, this can readily be avoided or controlled by repeating the supra-renal spray.

The most popular and extensively used animal extract is obtained from the thyroid gland, of which there are several preparations. It has a high reputation, in the cure of myxœdema. According to Osler, in his article on the subject, " The results, as a rule, are most astounding: unparalleled by anything in the whole range of curative measures. Within six weeks, a poor, feeble-minded, toad-like caricature of humanity, may be restored to mental and bodily health." In cretinism, it is claimed, the effect of thyroids is little less than marvelous. In the treatment of insanity, Clouston says, " No case should be allowed to become incurable, without trying a course of thyroids." Obesity is said to be cured or improved in a majority of cases, by the administration of thyroids. The gland, or its extract, appears to be efficacious in chronic rheumatism, arterial sclerosis, scleroderma, prurigo, psoriasis, ichthyosis, and lupus: in hæmophilia, in pelvic hyperæmia, fibroid tumor, disturbed lactation, and sundry gynecological conditions. Its use has also been recommended in tetany, paralysis agitans, acromegaly, acute suppurative tonsilitis, and retarded consolidation of fractures.

"According to Serafine the treatment of simple goitre by Thyroid gland is best adapted for the form known as struma parenchymatosa. Definite cure is rarely observed, and only in young subjects. The results are satisfactory in sixty-three per cent. of cases, the goitre lessening in size. In thirty per cent. of the cases the treatment is absolutely valueless. When goitre has undergone secondary degenerations, such as colloid or cyst formation, the treatment is useless."

My own experience in cases of thyroid feeding has been in cases of long-standing bronchocele in exophthalmic goitre and in obesity; but I probably have made an unfortunate selection of cases, for I have to report my results as wholly negative.

Cerebrine I know only by name, but as it seems to me to be nothing more nor less than a reincarnation of the " Essence of Man's Brains " of three centuries ago, it may well be allowed to remain a relic of the therapeutic past.

Protonuclein is a preparation for which great claims are made. I have used it in myelo-splenic leukæmia, in pernicious anæmia, malignant growths, and in cases of marked nervous exhaustion; but I am unable to be at all certain that it exerted any influence whatever, good or ill, on the progress of the cases.

Carnogen and *Extract of Red Marrow* are preparations which cannot be excluded in a list of Animal Extracts. To my mind they are to be classified simply as concentrated foods. My experience with them has been of comparatively moderate extent, but in some cases I have reason to think they were distinctly useful. I have used them in three or four cases of pernicious anæmia, one of which seems to have been cured. Credit may be due to the red marrow in this case, although other curative measures were also employed. In a recent case of climacteric metrorrhagia, and in a few cases of chlorosis, and marked debility with anæmia, I am inclined to credit carnogen and red marrow with being of demonstrable service. In the category with the remedies just discussed we must include the beef extracts and special food preparations. Nor can we, without ingratitude, omit mention of two articles which surely are "animal extracts" in the strictest sense of the term, and whose wide usefulness stands undisputed. I refer to milk and eggs.

In concluding this brief and exceedingly inadequate review of a large and highly important subject I would say that the theory underlying the use of anti-toxic serums appeals strongly to the thinking mind as at least a plausible theory; one which promises much in alleviating suffering and in curing disease; one which should not lightly be set aside without intelligent and exhaustive examination of its claims. My own experience in this connection has not been extensive enough, however, to tempt me to cast aside in favor of this or any other system of cure the methods that I have made chief use of thus far in my medical life.

If, as it has been claimed and partly demonstrated, the anti-toxic serums are non-medicinal and innocuous, there would seem no reason why they should not be extensively experimented with along clinical lines. The toxins, like tuberculin, and Coley's mixture, being poisonous substances, should be used with the extremest caution, and only after possessing the fullest attainable knowledge of their powers.

Thyroid and supra-renal preparations possess pathogenetic properties of some power. One may feel justified in using them along "physiological" lines. Why should the symptoms of "thyrodism," tachycardia, oppression, exophthalmos, glycosuria, albuminuria, irritability, emaciation, vertigo, not be made use of on the principle of similars? Has this ever been attempted? This seems to me to be an interesting and suggestive query.

MODERN AIDS TO ACCURATE DIAGNOSIS.

BY J. P. RAND, M. D., MONSON, MASS.

The subject assigned to me is too large for anybody to comprehend within the limits of a single paper, since all that has proved valuable in the past we still retain to form with discoveries of later date the *modern aids to accurate diagnosis.* I will therefore make no attempt to cover the whole ground but state as concisely as possible some of the methods by which medicine has been taken out of the mysticism and devéloped into an actual science.

Disease was formerly supposed to be the result of some offence to Deity, and even yet the superstition is implied in our formal expressions of condolence. We still hold the Deity responsible for our personal bereavements when we say, "Whereas it has seemed best to an all wise Providence to take our dear brother or sister, etc."

But the golden thread of truth runs through all ages and superstitions alike. Our deities change with the measure of our comprehension, and while the religion of the savage and scientist has but little in common, in this they both agree: Disease is still an offence to the Deity—the Deity of natural law by which our material bodies are governed.

There are a few diseases mentioned in the New Testament in connection with the miracles of healing, viz: leprosy, metrorrhagia, epilepsy, congenital amaurosis, paralysis, fever and dropsy, though some of these we consider as symptoms only. From this small beginning of nineteen hundred years ago diseases have been studied, classified, and divided until they are far more numerous than the hair upon some of our heads, in short, are practically without number. I do not mean by this that diseased conditions have materially increased, of course they have to some extent, but not greatly. The difference comes rather with our improved habits and means of observations which constitute the words of my subject. Diseases themselves are not new.

But what are some of the "Modern Aids to Accurate Diagnosis?" *First*—The improved forms of surgical technique by which the "exploratory incision" is made a warrantable proceedure. Seeing puts an end to guess-work. Prof. Helmuth used to tell his classes, "It is a very easy thing to diagnose a tumor when you have it on the table". That was before the days of license in abdominal explorations. To-day the conservative surgeon will very rarely venture a positive opinion in an obscure case. With the sweetest tones of assurance the patient is invited to come to the hospital for an "exploratory incision" and so trivial has the proceedure become to the mind of the operator that it is advised with less hesitation than a young physician would feel in asking a patient to disrobe for a physical examination.

The exploratory incision however is a great " eye opener," in short is an *autopsy* in the original and best sense of the word. It lets light into many an obscure corner and often prevents and takes the place of a post-mortem examination to establish a diagnosis.

How many cases of ovarian disease have been mistaken for appendicitis — how many distended gall-bladders for malignant growths — how many normal pregnancies for uterine fibromata only those who have had experience can appreciate or understand.

Almost every surgical device contributes in some way or other to accuracy in diagnosis but the ones upon which we especially rely relate particularly to the organs of sight. Take so simple an apparatus as the conical speculum, the convex mirror and a condensed light and you have the open door to the diagnosis of almost every disease of the nose, ear, throat, vagina and rectum.

The Opthalmoscope constructed upon a little different plan makes it possible to inspect the anterior chamber of the eye and to see highly magnified, the terminal branches of the optic nerves and blood-vessels as they appear upon the choroid and retina. Nowhere else are the nerves and blood vessels exposed to such direct observation, and strange, but true, diseases of remote organs, especially the kidneys, can often be detected in this way.

More wonderful still is the cystoscope with its incandescent electric light for examination of the distended bladder, and a like apparatus for exploring the stomach through an œsophageal tube. Prof. Doughty, of New York, told us at our meeting last October, you remember, his method for injecting the kidney itself through the ureter in order to determine its position, distensibility and size.

But there is a world beyond our feeble vision in which lies hidden the key that unwraps the mysterious origin of disease. Here are the secrets of life and death, here the wonders of biology and pathology and the microscope is the " open sesame " to them all.

The essential principle of the microscope is not new. In 1671 a Jesuit priest named Kircher, with a crude magnifying glass, discovered " minute living worms " in putrifying cheese and meat. Only four years later a Dutch linen merchant, Anthony Van Leewwenhoek, beheld in the saliva, intestinal contents, rain water, and decomposing fluids " minute living particles " which he called *animalculæ*.

In 1762. Plencig, of Vienna, after much careful observation, asserted his belief that the phenomena of disease and the decomposition of animal fluids were wholly caused by these minute living germs. And yet for over two centuries the theory of spontaneous generation held sway and had it not been for the indefatigable labors of Cohn, or Koch, and the peerless Pasteur, might still remain.

The evolution of the microscope has been the evolution of pathology and the evolution of pathology means accuracy in diagnosis.

Think of what the microscope has already done for the advancement of science! Beginning with scabies which was once supposed to be a constitutional taint it brought the acarus into view, and proved the parasitic origin of the disease. Then came hydatids in recurring abscess of the liver and trichinæ in diseased pork, and then that line of abnormal tissue formations we designate as innocent and malignant growths.

It is no secret that the master minds in the profession await the report of the microscope before venturing a diagnosis.

By the aid of chemistry, centrifugal sedimentation and the microscope, urinary analysis has been brought to a high state of perfection. There is no disease of the kidneys in which the urine does not afford reliable information and in some it is our only source. Here we find renal and bladder epithelium, crystals of many and various salts, corpuscles of blood and pus, masses of fibrin or albumenoid material thrown off as casts, numerous forms of minute vegetable growths known as bacteria, and possibly the male element of reproduction. Compare the one crude test of boiling a suspected urine with the many delicate and distinct analyses that we now employ and you can gain some idea of the tremendous advances made in a single department of diagnosis.

But the microscope can not work alone. Diseases are for the most part associated with, if not produced by, minute living vegetable growths called germs. Just how these germs produce the phenomena known as disease is not fully understood, but the fact of their etiological relation is no longer doubted. The modern pathological laboratory is the oracle of scientific investigation. Here are prepared those culture beds upon which are propagated and grown almost every form of bacteria which produce disease. The hanging gardens of ancient Babylon were surely not more wonderful.

You are all familiar with the methods commonly employed for the detection of diphtheria by our municipal authorities. The germ of this disease was discovered by Klebs in 1883 and a little later was studied by Lœffler who proved it to be the cause of diphtheria. Under favorable conditions this germ multiplies very rapidly, much more so than the ordinary forms of bacteria, so that we are able to recognize it by the rapidity of its growth as well as by its microscopical appearance.

It is only a few years since that the brightest clinicians were wrangling over the differential diagnosis of diphtheria and membranous croup. The one was supposed to be a constitutional disease highly contagious with a local manifestation in the throat. The other was regarded simply as a local disease. But the microscope found in both the same pathogenic bacteria and settled the whole question at once.

But diphtheria is not the only disease of obscure origin which the microscope has made plain. Already the test has assumed formidable proportions, but the end is not yet. In 1885 Pollender discovered the germ of that disease common among cattle but sometimes present in the human subject, anthrax. In 1879, Hansen, that of leprosy, in 1889, Eberth, that of typhoid fever, in 1882, Koch, that of tuberculosis following with that of Asiatic cholera two years later. In 1884, Nicolaier, that of tetanus, in 1886, Frankel proved the diplococcus of pneumonia to be the cause of that most fatal disease. In 1894, Kitasato and Yersin discovered the germ of the bubonic plague, that "black death" which swept over Europe in the fourteenth century destroying twenty-five millions of people, and in 1894 Canon and Pfeiffer claimed to have discovered that smallest and most active of known microbes, viz., the grippe germ with whose result we are all of us more or less familiar.

But the causes of our most typical of all infectious diseases, small pox, measles and scarlet fever have thus far eluded detection. All are without question of bacterial origin. The very fact of a period of incubation is proof that the original infection was not sufficient at the start to produce immediate results. It requires time for it to multiply and grow before the characteristics of the disease appear. Newton had no clearer demonstration of the law of gravity in the falling apple than have we of a specific living germ in every disease that exhibits a period of incubation. We may not find this germ, our glasses may be too weak, yet it is there.

All pathogenic germs, however, are not of vegetable origin. One at least, the plasmodium malariæ, is an animal parasite which was discovered in the blood of afflicted patients, by Laveran in 1880. It had been long observed that malaria was most prevalent in low marshy districts and that infection was most likely to follow exposure to the night air in the summer or early autumn. It had also been observed that the disease was not directly communicated from one individual to another. People living in malarious districts had well held the mosquito as an object of detestation, with him they had fought and bled and died. Then came a pause in the denunciations of the poor insect; scientists had found the germ of malaria in his insatiable maw, and the cry arose, "the mosquito is God's good angel sent to eat up and destroy the malevolent bacteria that devastate the race." But the pause was only a brief one. Soon the apprehensions came that the mosquito who could take up germs might scatter them as well, and his winged majesty became an object of suspicion.

In 1896 Dr. Bignami published in the Lancet a very strong argument in support of the theory that the infection of malaria was usually due to the bites of mosquitoes, but it was left to the closing year of the nineteenth century to demonstrate the fact. Italian observers had repeatedly shown that mosquitoes from a malarious district when allowed to bite perfectly healthy persons, who lived outside, would communicate to them the disease.

History has shown no grander display of enthusiasm than that of Dr. Sambron and his companions who exposed their lives to the contagion of malignant malarial fever in the marshes of Campagna, Italy, only last summer. Dr. Sambron believed that a certain variety of mosquito called the *anopheles* was the agent by which the malarial germs were communicated and the experiment was tried to prove it. With one sole companion he camped out for three months in a most intensely malarial district taking no medicine or any precautions whatever against contagion, except to protect himself from the bites of mosquitoes, and neither he nor his companion took the disease.

A very strong counter-test was also made a few months ago when mosquitoes that had bitten malarial patients in Italy were sent to London, where there is no acute malaria, and there allowed to bite the son of Dr. Manson, who, according to Dr. Osler, really suggested the mosquito theory of malaria. Dr. Manson's son was strong and perfectly healthy, but in a few days following the bites of the mosquitoes he developed a typical attack of malaria.

Compare this nicety of observation with what was considered good practice in the diagnosis of malaria only a few short years ago, viz., the administration of heroic doses of quinine. If the patient lived it was malaria, if he died it was not, though the dose taken might have been enough to kill him.

We smile at the credulity of our English ancestors whose test for witchcraft in the seventeenth century was by wrapping the suspected individual in a sheet with his thumbs and great toes tied together and then dragging him through a mill-pond. If he sank promptly, he was considered innocent, if he did not he was condemned to death.

Some day the therapeutic method of diagnosing malaria by quinine and syphilis by mercury and iodide of potash will appear as crude to the scientific physician as the barbarous tests for witchcraft do to us. The Philadelphia Medical Journal of March 30, 1901, in speaking of suppurative conditions similating malaria, says, "The delay caused by the administration of quinine in order to exclude malaria is as a rule inexcusable for we have at our command that more reliable source, the microscopical examination. . . . A single droplet of blood will not only determine the presence of the disease but will also indicate our therapeutic measures and the necessity of proper isolation to prevent its spread by means of mosquitoes."

And right here let me call your attention to a very interesting report presented at the Pan-American Medical Congress in Havana only last February, by Dr. Reed and his associates of the U. S. A. on the propagation and spread of yellow fever.

I cannot go into the details of his experiments, but the gist of his conclusions were : that in no instance was yellow fever communicated by fomites or contaminated clothing, as we have hitherto supposed, but that in all cases the agent of infection was a variety of mosquito known as the *culex fasciatus*, and this being true, the most effectual methods of preventing the spread of the disease must be the destruction of mosquitoes and the protection of both sick and healthy against their bites.

I will also add that the specific germ of this disease, though claimed to have been discovered by Sanarelli in 1897, is not known.

The question of malaria opens up the whole subject of blood examination and the possibilities that go with it. Of late much attention has been paid to this branch of pathology as a means of diagnosis.

With suitable apparatus we may count the different varieties of blood cells and ascertain their relative numbers. Normally there is about one white corpuscle to three hundred red. A moderate increase of white corpuscles, say one white to one hundred red is called hyperleucocytosis. A still greater increase of the white corpuscles is leucaemia. If there is a marked diminution of the haemaglobin or coloring matter of the blood without a corresponding decrease of the red corpuscles the condition is called chlorosis. If we have the clinica- features of leucaemia, such as enlargements of the spleen and lymphatic glands without the characteristic changes in the proportion of blood cells, we have a pseudo-leucaemia or Hodgkin's disease. When the red corpuscles are very much diminished in number and deformed in outline, the amount of haemogoblin relatively increased and the number of cells normal or diminished, we have all the conditions known as pernicious anæmia whose prognosis is very grave.

Here are at least five diseases once classified under the general term, consumption of the blood, which the microscope has made possible to differentiate. And we must not forget the achievement which this society has already recognized, of that promising young pathologist, Dr. Solomon C. Fuller, who first observed and published to the scientific world, crystals of morphine in the blood of an opium eater.

There is one aid to accurate diagnosis too old to be called modern and too valuable to be set aside, and that is the stethoscope which was introduced by Laennec in 1816. I will not attempt to describe its various forms and modifications. The principle of all is the same and the best instruments of to-day possess little advantage over the one originally devised. By means of the stethoscope we are enabled to recognize and interpret the various sounds associated with the heart as well as the grosser forms of pulmonary disease. It is a very easy thing to diagnose a pleuritic effusion, a large cavity or extended area of consolidation by percussion and auscultation. But I doubt if the man lives who can tell infallibly whether a given consolidation is *tuberculous* or not by the physical signs. He may think he can, and in the great majority of cases his judgment may be correct, but unless he has actually seen the germ of tuberculosis present he cannot be sure.

And right here I crave your indulgence if I digress for a single moment to enter a protest against the sending of a suspicious patient to a hospital for consumptives whose sputum is not *known* to contain bacilli. It is wholly possible that the patient may not be tuberculous at all, and, if he is not, you are exposing him to an unnecessary risk.

Be the hospital ever so cleanly there is still a certain danger of contagion, and the weakened and debilitated constitution is just the one to suffer by it.

Personally I believe the microscope to be the consummate diagnostic test in pulmonary tuberculosis.

Three years ago I obtained the records of 273 patients whose sputa I had examined. Of this number 177 showed bacilli and 96 did not. Of the former 81 per cent. had already died of tuberculosis, of the latter only 3 per cent. and some of these may possibly have become infected subsequent to the examination. At any rate the presence of bacilli in the sputa of a suspicious patient diminished his chances for recovery forty-eight times.

If the death rate was any evidence of a correct diagnosis the microscope surely made a creditable showing.

I cannot forego the temptation to digress a little farther and tell you the glad news that consumption in this State at least is on the decline. According to the official returns of the Massachusetts Board of Health, in 1890, 130 out of every 1000 deaths were due to consumption, while in 1899 there were only 99.5. An actual decrease of 3 1-2 per cent. as compared with the entire death rate and a comparative decrease of nearly 24 per cent. if consumption is considered alone.

Remember this when the climate of Massachusetts is complained of. Instead of the old stereotyped statement that one *seventh* of our people die of consumption, we can now say, that in 1899 not one-tenth of our mortality was due to this disease.

But I must not digress farther ; I wish I had the ability to crowd the wisdom of a thousand pages into a brief statement of fifteen minutes. I would like to speak of cerebral localization and the advances made in diagnosis of diseases of the stomach, but there is not time.

I cannot close however without at least a reference to that modern and most wonderful electric invention known as the X Ray. From a surgical standpoint it forms with anæsthesia and antisepsis a trinity of tremendous possibilities.

The importance of this discovery when all the world was bristling with bayonets can hardly be overestimated. The *X Ray* and the *Red Cross Nurse* are the two lone stars in the dark horizon of a wounded soldier.

I will not describe the apparatus or its use ; you are all familiar with both. It is no longer impossible to see through the solid flesh, and when we think of Garfield, and the lives that might have been saved in years gone by by just such an instrument, the words addressed to the Master by the sisters of Lazarus appeal to us with peculiar significance : " If thou hadst been here our brother had not died ".

And lastly, let me emphasize my belief that the achievements of the century just passed are but the earnest of better things to come.

There are men in this society who have watched the evolution of medical diagnosis from small beginnings until it is almost a science. It will be a science sometime, and sometime we shall be able to recognize and understand the various phenomena known as disease as easily as we can now comprehend the cause and periodicity of a solar eclipse.

REPORT OF COMMITTEE ON INSANITY AND NERVOUS DISEASES.

Ellen L. Keith, M.D., *Chairman.*

I. The Influence of Manual Education upon the Development of the Speech Centres. Illustrative Case,
Frank C. Richardson, M.D.
Discussion opened by **Edward P. Colby, M.D.**

II. The General Practitioner and the Insane, **Clara Barrus, M.D.**, Physician at the Middletown State Hospital, New York.
Discussion opened by **N. Emmons Paine, M.D.**

III. Suicidal Tendencies of the Insane, **Edward H. Wiswall, M.D.**
Discussion opened by **George S. Adams, M.D.**

IV. The Report of Four Cases of Pernicious Anæmia in Insane Subjects with a Consideration of the Nervous Sequelæ of the Disease,
Solomon C. Fuller, M.D.
Discussion opened by **Frank C. Richardson, M.D.**

THE POSSIBLE INFLUENCE OF MANUAL EDUCATION UPON THE DEVELOPMENT OF THE SPEECH CENTRES. ILLUSTRATIVE CASE.

BY FRANK C. RICHARDSON, M.D., BOSTON, MASS.

As is well known the faculty of speech is maintained by the left hemisphere of the brain in right-handed people, and by the right hemisphere in those who are left-handed. Notwithstanding occasional feeble evidence to the contrary this would seem to be one of the indisputable facts of physiology.

Not a little has been written upon the determining causes of the predominance of right-handedness, but it still remains a biological problem. The genetic relationship and interdependence of dextrality and the unilateral speech representation has been recognized and vaguely commented upon. Various theories have been advanced in explanation, most of them fanciful and none satisfactory, so that the accepted idea at present is that dextrality and the location of the speech centres are inherited characteristics. Collins (Faculty of Speech, P. 96, et seq.) states: "I write with my right hand, with it I throw, I use a knife to whittle; in fact every ordinary act calling for dexterity is performed with the right hand, yet I am left-handed in the sense of the term that originally the organism was intended to be served particularly by that hand, and were it not for the care taken in the nursery the left hand would be the dextrous member today; *and no one, I think, would deny that if such a person were to have a lesion on the right side of his brain involving the areas to which are allocated the functions of speech, he would have with it aphasia.*"

A case which has been under my observation during the past year would seem to cast doubt upon the correctness of the above conclusion, and has emboldened me, after considerable study of the subject, to present views directly opposed to the theory of inherent allocation of speech centres, and to suggest a possible intimate relationship between the development of the faculty of speech and of the finer hand movements, basing my opinion upon certain known anatomical and physiological facts, and offering the case referred to as corroborative evidence.

Histological research furnishes abundant evidence of the immaturity of the higher cerebral centres at birth. It is an accepted fact that a nerve becomes functionally mature when it acquires its fatty sheath, or becomes medullated. Knowledge of the significance of medullation has been a most potent factor in determining the time at which the various parts of the nervous system develop.

The extensive researches of Flechsig in this direction developed the fact that while the spinal cord of the human infant is, with the exception of the pyramidal tracts, completely medullated at birth medullation has not taken place as yet in the cerebral hemispheres save very imperfectly in the internal and external capsules, and in the lenticular nucleus.

The new-born infant has, therefore, been likened to the dog whose cerebral hemispheres had been extirpated; reactive to external excitations of pressure, light, sound, etc., were possible, but he was utterly incapable of originating movements or of profiting by memory.

While it is commonly stated that the process of division by which new cells are created ceases in the embryonic period by the fifth month of fœtal life, it is undoubtedly true that nervous matter at any age shows what seems to be stages in growth of cell body, and along with the developed cells are to be found small cells which neurologists have generally considered an undeveloped form awaiting structure or function, education or impulse, or whatever else the inciting cause may be, to call them into active service. There is much indirect evidence for the conclusion that the growth energy which in early embryonic life is employed in cell division, passes when this process ceases into the work of forming the finer cell processes and collaterals which go on to form the so-called associate fibres connecting different parts of the cortex, one with the other, and that this growth continues operative until senescence sets in.

In 1892 Dr. Oscar Vulpius, of Heidelberg, made a thorough and careful study of these "tangential fibres" from twenty-two brains distributed in age from the thirty-second foetal week to the seventy-ninth year. The more important conclusions reached by Dr. Vulpius are that the tangential fibres begin about the fifth month, that their growth does not cease in childhood, and that as late as the seventeenth year the increase in tangential fibres is marked; furthermore, that in the speech centres there is a gradual increase until the thirty-third year at least. ("Archives of Psychiatry and Nervous Diseases," Vol. XXIII, 1892.)

Koes, in 1893, by a comparative study somewhat similar to that of Vulpius, shows so conclusively that the development of fibres in the cortex is a process still in active progress as late as the thirty-ninth year, that Edinger, who in earlier editions of his "Central Nervous System" denied the demonstration of this, admits in his later editions (1896 and 1899) that the principle has been established. This evidence would seem to not only refute the idea that the higher sensory centres are already developed at birth, but would seem to be sufficient to establish the fact that the finer nervous structures continue to grow until a late period of life.

A further fact of equal importance has been demonstrated; namely, that there is some definite order in the progressive development of these finer nervous structures.

In a monograph published in 1896 Flechsig gives the results of his attempt by the same neurological method to trace the order of development of the various bundles of fibres in the brain proper. Of the many interesting facts demonstrated by this research those most significant in the present study are, first, that Broca's speech convolution begins development at a much later period than other parts of the great areas concerned in general bodily movements, and, second, that the order of the development of fibres is regulated by the principle that those which perform the most fundamental and the most general functions mature earliest, those having the most specialized functions mature latest.

Ross, in his "Diseases of the Nervous System" says: "The portions of the nervous system which man possesses in common with the lower animals and which are developed in the human embryo at nine months, I shall call the *fundamental* part, and the portions which have been superadded in the course of evolution, which differentiate the nervous system of man from that of the highest of the lower animals, I shall call the accessory part of the nervous system."

Dr. Ross points out that the main movements which distinguish man from the lower animals are those which he has acquired since he adopted the erect posture — the varied movements of the hand in prehension, and tool using, which developed after the hand ceased to be merely a foot; the movements of articulatory organs concerned in speech, and movements of facial expression.

Here again we may trace an intimate connection between these so called "accessory" movements of the hand and of the articulatory organs, and is it not fair to presume that because these accessory elements are alike comparatively new, present more instability and plasticity, that their education and development is coincident and in a measure interdependent?

The anatomical contiguity of the convolutions containing the higher cortical centres governing speech and hand movements, as well as the fact of their identical blood supply, would suggest an intimate physiological relationship.

Through the persistent, painstaking experimentation and investigation of such men as Broca, Bastion, Lichtheim, Wernicke, Broust and others, the principal centres in the production of speech have been as definitely located as the well known motor centres in the Rolandic area, and it has been accepted as a fact that a lesion at the foot of the third frontal convolution causes inability to articulate words; that a lesion of the superior temporal gyrus destroys the ability to understand spoken words, and a destruction of the inferior parietal gyrus causes inability to interpret words which can be seen. These centres essential to the production of perfect speech are situated in convolutions immediately adjacent to each other, and to the convolutions containing the motor centres, notably those at the foot of the Rolandic area containing centres governing the musculature of the head and upper extremities. These convolutions derive their blood supply and nutrition from the branches of one blood vessel, the middle cerebral or Sylvian artery, the direct continuation of the internal carotid artery.

It will thus be noted that the convolutions containing centres for speech and those containing centres for hand movements are in close anatomical relationship and dependent for their nutrition upon the same source. The speech area, or zone of language, as well as the motor area, is made up of neurons, some of which send their axones into the Rolandic regions of the brain, while others confine their distribution to the speech area itself. The zone of language has no projection fibres going directly into the motor projection tract. On the contrary, the zone of language sends impulses to the Rolandic cortex and to particular areas of this region, depending upon the manner in which the idea is to be externalized; that is whether by spoken or written word or symbol, or by some other form of action which the judgment of the individual decides to be most serviceable in conveying the thought. The functionating power of the speech centres is thus dependent upon the centres in the Rolandic area.

Another instance of the close relationship of the hand movements and speech mechanism is seen in the complexity and highly specialized character of their finer muscular acts.

Progress in the evolution of hand movements is from extreme fewness in number to infinite variety, from simplicity to complexity, from clumsy inaccuracy to precision, from simultaneous associations to those which constitute long service in sequence, in short, from the general to the specialized. Coincident with this marvellous development of accessory hand movements, and, as I believe, in no small degree dependent upon it, is the evolution of the speech mechanism from the muscular acts producing the reflex cry of the infant, the unmeaning sounds of parrot-like repetitions of the child to the marvellous precision, complexity, accurate co-ordination and successiveness involved in human speech.

The unconscious simultaneous action of speech centres and those for the arm and hand seen in many persons during earnest discourse would point to correlated function and contemporary education at least; as would also the natural substitution of hand language for spoken words when attempting to communicate with some one who is beyond the reach of the voice.

All positive evidences from the sciences of anatomy and physiology, and pathological phenomena as well, go to support the evolutionary view of the nervous system of parts, correlated and closely associated, but nevertheless preserving a degree of relative independence.

The suggestions of this review may be briefly summarized as follows : —

At birth the higher cortical centres governing speech and accessory hand movements are undeveloped.

These centres grow in their finer structure until a late period of life.

That their developmental period is practically the same.

The chronological order of their development in relation to that of other brain centres is practically identical.

They subserve the same purpose, that of externalizing thought.

Their method of development is alike from general to specialized function.

The convolutions in which they are contained are in anatomical juxtaposition and derive their nutrition from the same blood supply.

From the evidence here presented I am led to conclude that dextrality and unilateral speech representation are not inherited characteristics, but are dependent upon the post natal development of the finer nervous structure constituting their governing centres, in response to educational stimuli affecting these centres synchronously; and furthermore that the hand movements being more fundamental in character their evolutional process slightly precedes that of the speech mechanism, and is a potent factor in determining the allocation of its centres.

As corroborative evidence in support of my contention, I submit the following case, the essential facts of which are these: —

Mrs. L., one of three children, her father and one sister, were left-handed, a brother being right-handed. Since early childhood Mrs. L. has used the left hand in preference to the right, but from her fifth or sixth year her mother by persistent effort taught her to write and sew with the right hand, and she cannot now use the left one for these purposes, although for many other things, such as cutting her food, using the scissors, and throwing, she uses her left hand.

She is therefore by inheritance and early example left-handed, and according to the accepted idea should have inherited also a right-sided speech representation which should persist in spite of acquired dextrality. When 45 years old she developed a *right hemiplegia with sensory aphasia*, which latter condition persists after thirteen months, although the motor paralysis has greatly improved.

My interpretation of these facts is that, notwithstanding her inheritance of left-handedness, the process of educating the right hand in the closely allied accessory function of writing had simultaneously developed the speech centres in the left cerebral hemisphere.

The above hypothesis affords a reasonable explanation of the acknowledged value of manual training in the development of the faculty of speech in mentally deficient children.

It is also suggestive of an adjuvant measure in the treatment of aphasia, which I am at present employing and the value of which I hope to report upon at some future time.

THE GENERAL PRACTITIONER AND THE INSANE.

BY CLARA BARRUS, M.D.

(Physician at the Middletown, N. Y., State Homœopathic Hospital.)

It is not expected that the physician in general practice shall have the knowledge of the alienist, but he should have a general knowledge of the ordinary forms of insanity, and of their proper management, since the first care of the insane necessarily devolves upon him, and at a time when cases are in their early and most curable stages.

Eight years of work in a hospital for the insane have led me to believe that the general medical practitioner is more poorly equipped with knowledge of this branch of medicine than of any other. The worst of it is, he evidently feels no concern about a lack of knowledge the same degree of which, in other branches of medicine, would cause him deep chagrin.

Last year there were 22,838 cases of insanity in the New York State Hospitals, and 941 cases in sanitariums; besides these, there are at large, and cared for at home, many unnumbered insane. With so many cases of insanity in our midst, it would seem hardly necessary to urge physicians to acquire a better understanding of psychiatry.

Until a comparatively recent period, mental medicine was not systematically taught in medical schools. Now, men of recognized ability and experience lecture on the subject, and lectures are supplemented by clinics at hospitals for the insane, in the vicinity of medical schools. Moreover, students of medicine, and practicing physicians are allowed opportunities for clinical study, under suitable restrictions, in the wards of our State hospitals.

Theoretical knowledge of insanity is obtainable by reading Clouston, Spitzka, Maudsley, Greisinger, Bucknill and Tuke, and other writers on mental diseases. Until the present month, only two books on insanity, written by homœopathic physicians, were known to the writer— those of Dr. Samuel Worcester and of Dr. Charles Sinclaire Elliott. Dr. Talcott, of Middletown, has just published a small book on "Mental Diseases and Their Modern Treatment," written especially for the use of medical students.

Any book which gives concisely the salient points of the chief form of insanity, enables the busy practitioner to diagnose cases, and to form an intelligent opinion concerning their course, and the probability of their recovery.

No one is in so good a position as the family physician to detect the inception of insanity, and to arrest its development by prompt and judicious preventive measures. Indifference on his part, however, makes him slow to recognize premonitory symptoms.

Acknowledging, then, the need both for a wider diffusion of knowledge concerning insanity, and of what constitutes its proper management in its early stages, what other duties devolve upon the physician in general practice, in regard to the insane?

He should become conversant with the insanity laws of the state in which he lives.

Then, as soon as eligible, in most states after three years' general practice, he should register as an examiner in lunacy.

The laity, and even many physicians, seem to think eligibility as an examiner in lunacy requires some special knowledge of insanity. Unfortunately it does not, as commitment papers abundantly testify, although, in the three years pending one's eligibility, by study, and by the observation of patients in state hospitals, physicians might become excellently qualified to certify to the insanity of the cases which come to their notice.

It seems unpardonable for the family physician to neglect to register his qualifications as an examiner in lunacy. It is to him that the friends turn for aid when the outbreak of insanity makes it necessary to remove the patient from home. If he is unprepared at this juncture to be one of the committing physicians, the friends feel a sense of disappointment. Humiliated, he realizes that he is a broken reed — no enviable realization for a conscientious physician.

Furthermore, some more enterprising physician who is properly registered is called in to commit the patient. The family physician not only loses the fee, but it frequently happens that he loses the family also.

The friends are apt to argue that since the other physician is an examiner in lunacy, he is, therefore, better fitted to minister to the family now that it is afflicted with insanity, when, as a matter of fact, the other man may not be even so well informed on these subjects as is the family physician.

Let us next consider some of the things to be remembered by the examining physicians.

The commitment papers should bear indisputable evidences of insanity. Judges who sign commitments are more exacting than formerly, still it sometimes happens that patients, unmistakably insane, are sent to hospitals with certificates which show no evidence of the fact — the things mentioned being wholly compatible with sanity.

Suppose the certificate states that a patient treats her husband with disdain, or that she fears his business reverses will bring his family to want, or, that she sits with downcast eyes and broods over the past — these are not proofs of insanity. The paper must show the conduct of the patient to be unreasonable — the result of morbid fears, and of false beliefs which she entertains in spite of logical proof to the contrary. Otherwise, we may properly question whether the husband doesn't deserve her disdain (some husbands do), whether her fears about financial affairs are unfounded, and whether or not she has reason for deploring her present condition. There must, then, be explicit statements to show that her delusions are insane delusions, her hallucinations, insane hallucinations, and that her general mode of thinking and acting are so at variance with her normal state as to justify the examing physician in pronouncing her insane.

Permit me to set forth a few "don'ts," based upon errors frequently made by examining physicians — New York State physicians, of course.

Don't call every form of mental aberration "dementia."

Don't use the term "softening of the brain." It is misleading. In most cases, senile dementia is probably meant, although, pathologically considered, the term applies equally as well to the brain conditions in general paresis.

Don't use as synonymous the words hallucination and delusion. If not clear as to the meaning of these terms, consult a text book on insanity before using them.

Don't confound paresis and paranoia. The first syllables of both words are spelled the same, but the similarity almost ends there.

Don't mistake a case of dotage for senile dementia; nor one of hysteria for insanity.

Don't mistake a case of delirium due to alcoholism, or to febrile disease, for one of acute mania. It is a grave thing to adjudge one insane; although in need of supervision and restriction, it does no necessarily follow that he requires the care of a hospital for the insane.

Don't fail to remember the possibility of a person feigning insanity, and also the probability of others attempting to conceal it. Especially is the latter probable in cases of paranoia, and also in those patients who have had previous attacks of insanity.

After a person has been adjudged insane, frankness in dealing with him should be observed. For years hospital physicians have tried to persuade the public to adopt this course, yet there frequently occur instances where deception has been practiced on patients.

Be honest with them, if for no other reason than that "honesty is the best policy." Patients brought to a hospital for the insane after having been told that they were being taken to a hotel, a boarding house, or a general hospital, are, at the start, handicapped by distrust of their new surroundings, and of those who are to minister to them. Deceived and betrayed by friends, what can they hope from strangers? It is far better to remove patients under protest, or even by force, than to take them under false pretenses.

If difficulty is anticipated when the patient learns that he is to be sent away, it is well to apply to the hospital for a nurse to accompany him. The nurse, who is accustomed to deal with such cases, after gaining the patient's confidence, can often communicate the news of the intended removal, with less disturbance than would be shown if he were to learn it from his friends.

The examining physician should furnish the hospital with a family and personal history of his patient, and with a full statement of the contributing causes, the early symptoms, and the mode of development of the mental disease.

Better still, as sometimes happens, if he accompany the patient to the hospital; in so doing, he contributes, at the outset, necessary information otherwise imperfectly extracted from excited and sorrowing relatives, who are worn with care, and distracted by grief. A false sense of disgrace, too, frequently leads them to conceal or deny facts necessary to a proper understanding of the case. To add to these disadvantages, they usually wish to catch the next train. Further information is limited to what the patient can furnish, and to what we can obtain by observation.

Next to a proper commitment of the patient, the physician needs to be prepared to advise as to the best place to send a given case.

To this end, he must know the location, requirements for admission, and cost of care at the public and private institutions in the state in which the patient resides.

Most of your patients' friends presumably wish homœopathic treatment for the case; requirements for admission to the Westborough Hospital are, therefore, practically those which you need to acquaint yourselves with. If, however, the patient is suffering from an incurable form of insanity, medical treatment is of little moment, you would better serve the future interests of the family by seeking admission to the nearest hospital, regardless of the school of medicine, thereby lessening the expenses for transportation of the patient, and also for the future visits of the friends.

The various penal and reformatory institutions, the homes for inebriates, homes for feeble-minded children, and for epileptics, should be known to the general practitioner, that he may wisely discriminate where unfortunates shall be sent.

The scope of institutions varies greatly; injustice may be done a patient by sending him to one place if another is better suited to his needs.

A feeble-minded child put in the wards of a State Hospital, is likely to acquire, through its imitative faculty, the mental and physical habits of the chronic insane, whereas, placing it in an environment planned to educate and support its feeble but educable mind, might change the whole course of its life.

State hospitals are for the care of persons of moderate circumstances, or for people with no means at all. Under the humane management of modern state hospitals, patients are comfortably housed, and furnished with things necessary for their care, whether they are private or public patients. There can, however, be no question but that the many excellent private institutions can meet individual needs, and supply luxuries not afforded by state care. As a rule, persons able and willing to pay for such advantages and luxuries should be recommended to sanitariums.

There is another important thing to be considered — the greater privacy of a private institution, and the importance of this fact on the future welfare of the individual.

Patients who have been insane are naturally sensitive about it. Some never cease to feel resentment toward their relatives for placing them in a public institution. Notwithstanding that insanity is a disease instead of a disgrace, a certain stigma brands the person once insane, so that measures taken to prevent the curious public from knowing of his affliction, are not only justifiable, but even praiseworthy.

A sanitarium is better fitted to maintain this desirable privacy; serious business losses, and permanent loss of position are frequently avoided by this procedure.

There is, however, one thing in this connection not to be overlooked when balancing the advantages of state hospital and sanitarium care, namely, the fact that state hospitals are under the management of physicians who have had exceptional advantages for acquiring knowledge of the insane, while in many sanitariums a mere tyro may be at the head. Do not send your patients to a private sanitarium unless convinced that the physician-in-charge has had the necessary experience to properly treat the case. Also make sure that he is conscientious enough to effect a materialization of the many advantages promised in his prospectus.

Not every insane person needs to go to a hospital for the insane. Some cases are unquestionably better cared for at home. Insane patients who are so reduced physically that removal would be dangerous to life, should be kept at home. It is unfair to hospitals to increase their death rates by the addition of moribund patients, for whose death they are in no way responsible.

As a rule, insanity, developing in an elderly person, takes the form of senile dementia, though cases of mania and melancholia are also observed. Patients in the seventies do not have general paresis, although instances are known where a physician has glibly stated that his patient, seventy-two years of age, is suffering from paresis. The age alone precludes that diagnosis, and points presumably to senile dementia.

Patients with senile dementia are very trying to care for at home. There is a growing tendency to shift the care of them upon the state hospitals. Physicians should encourage relatives to practice forbearance to a considerable degree rather than to send the aged person to spend his last days in a hospital for the insane.

Compassion and tolerance are often engendered in the young, by having in their midst an aged grandparent with senile dementia; a salutary influence on the character, therefore, results.

On the other hand, if the patient is indecent in manner and conversation, if he is likely to set fire to property, or to do himself or others bodily harm, or if he is such a thorn in the flesh that his presence causes dissension and wrangling in the household, removal to a hospital may properly be recommended.

Cases of simple melancholia do not always require hospital care, although some change of environment, however slight, is usually needed to counteract morbid conditions — a visit to a congenial friend, a journey to some place of interest, anything to crowd out the old train of thought by substituting things new and engrossing.

A week's bicycle trip offers exceptional advantages for dispelling enveloping gloom. If taken with a congenial companion, the very uncertainties of wind and weather, combined with vigorous exercise, and with the stimulation of new scenes, work surprising results.

A steadily developing case of melancholia yielded to a profound impression made on beholding Niagara Falls. Speaking of it, later, she said: "I was absorbed and apathetic when I went there,— unable to get up interest in anything outside of my own gloomy thoughts. But the sight of all that rush of water, the sudden, overwhelming realization of its power, stirred me to the depths. I felt something awaken within me — the stirring of hope, the desire, though feeble, to engage again in customary activities."

The family physician, knowing the circumstances and needs of his patient, and having a sympathetic appreciation of the case, should be able to devise substitutes for the old habits of life and thought.

He will have failed in his duty if he limit his help to the customary advice: "Stop brooding;" "Cheer up;" "Get out of yourself," *et cetera.* When a person has reached the stage where this advice is necessary, he has also usually reached the stage where self-help is well-nigh impossible. He needs active assistance, not platitudes. He needs new interests created for him. Do not expect him, in his apathetic state, to create them for himself. Look below the surface of things, find the cause of his despondency, if you can; remove it, if possible; put your own shoulder to the wheel and help him out of the ruts.

If despondency is very marked, suicidal impulses are apt to develop rapidly, often with little warning. For this reason it is wise to place such patients in a hospital, or a sanitarium, where organized supervision will prevent self-injury.

Vigilance unknown to a patient may, in an institution, be exercised effectually, whereas a much smaller degree of vigilance if he remain in his accustomed surroundings, would be quickly detected and felt to be irksome, even maddening.

The chances for recovery are far better when these patients are removed from home early.

Isolation, both from relatives, and from the scenes where the disease began to develop, is one of the chief benefits derived from hospital or sanitarium care.

Other curative measures are: Enforced rest, or exercise, according to the individual case; regular and abundant nourishment; the substitution of order and discipline, for disorder and irregularity; and the administration of remedies suited to the case.

These measures exert a beneficial effect upon one who is fast losing the power to direct his own life, yet who resents interference on the part of relatives.

There is a tendency on the part of many to humor patients suffering from mental aberration. They think the easiest way is the best way.

One little woman at the inception of insanity, can exercise a surprising amount of tyranny over a household. A case in mind, after two days' tyranny of this kind, said, on hearing of the expected arrival of a relative who was familiar with such cases: "Well, I've got to behave myself now, if G. is coming." Therewith she exerted a self-control in sharp contrast to her previous capriciousness. She even gave directions as to the speediest way to remove traces of the disorder occasioned by her mad whims. Her comments on this episode were significant: "Well, they made me act so. They did everything I suggested, as fast as it popped into my head. I knew they were afraid of me because I was crazy, and I thought I might as well give them something to be afraid of. I laughed to myself to see how they all toed the mark."

Cases of puerperal mania, and, in fact, all cases of mania, should be sent to a hospital in the very beginning. Friends, startled by the suddenness of the attack, are apt to wish to try the effects of treatment at home. Frequent periods of abatement of the maniacal symptoms, encourage them in this course. Narcotics are used to induce sleep, but the case, meanwhile, progresses to the point where commitment is unavoidable.

If the patient is kept at home until he becomes boisterous, vituperative, destructive, and blasphemous, the friends are distressed at witnessing, unnecessarily, these shocking manifestations so at variance to the accustomed behavior. Moreover, removal at this stage is only effected with difficulty.

General paretics, as a rule, should be placed under restraint as soon as the disease is recognized.

This being an incurable disease, the early admission to a hospital can make but little difference except to prolong life by conserving the physical strength, and by preventing the excesses common to the inception of paresis.

An additional reason for subjecting the paretic to proper restrictions is that his unnatural sense of well-being, and his delusions of self-importance, of wealth, and of power, give rise to innumerable impractical schemes which may involve him in serious business complications before his diseased condition is suspected. Grave social wrongs also result if his unbridled desires have full swing.

Paranoia is another form of insanity offering little hope of cure, yet there is no class of patients so much in need of the restriction of an institution as these same patients whose insanity is least apparent to a casual observer.

A paranoiac is frequently able to present his case so that he excites the suspicion of the listener against those he accuses, rather than against himself.

You listen to him and begin to feel that he is a much abused being with a grievance which has perhaps made him hypersensitive, and possibly somewhat intemperate in his statements, but you are more than half inclined to take up the cudgel in his defence.

The amount of harm that a paranoiac at large may do is incalculable. He may feel himself divinely appointed to take the life of some one, and the deed is done often before those in daily communication with him have suspected that he is insane.

In conclusion, the general practitioner can help to reform public opinion concerning insanity, and concerning institutions for the care of the insane. He can show that recoveries from insanity are continually taking place, and that prompt removal to hospitals and sanitariums increases the chances for recovery.

In this way he will do much to efface the unreasoning prejudice existing in the minds of so many, and thus remove the difficulty now encountered in persuading friends to permit their afflicted ones to be sent to hospitals for the insane.

SUICIDAL TENDENCIES AMONG THE INSANE.

BY E. H. WISWALL, M.D., WELLESLEY, MASS.

It sometimes happens that the love of life is paralyzed and the patient uses all the faculties of the mind in planning self-destruction. Then such a desperate state of affairs has been reached that the best care and management proves, at times, unavailing for his or her own personal safety. These abnormal mental conditions, we expect to find occurring frequently in melancholia, and occasionally in paranoia. Clouston holds, that the question of the patient being suicidal, should never in any case of melancholia be left unconsidered, and the risk of his becoming suicidal unprovided for. Most alienists agree, I believe, that in four out of every five cases of melancholia, suicidal tendencies are present, or will develop in some stage of the disease. The difficulty of determining the point where depression becomes abnormal and can be recognized as melancholia, is apt to be very troublesome to the general practitioner. The shading off from the one to the other not infrequently requires the closest scrutiny of the trained specialist to determine the boundary line between safety and danger for the patient. Even to the physician who has made a special study of these suicidal tendencies among the insane, experiences occur which are not only of a very startling nature, but are liable to be very hurtful to his own reputation. When anything happens to a patient, neglect of care and lack of foresight are charged up against the physician. In quoting from the history of patients who have attempted or who have succeeded in effecting suicide, I shall give those cases where there is no question of insanity. I mention this fact, as certain German authorities have recently estimated that only from 5% to 15% of the total number of suicides could be traceable to mental derangement.

Within the past two years a young man about thirty years of age was admitted to an institution for the insane in Massachusetts. He had been in active business with a very large and prosperous firm. While attending to the affairs of the company, he began to show signs of mental disturbance. He had delusions of persecution and very disagreeable hallucinations of hearing. He thought that people with whom he was associated were conspiring against him and trying to annoy him by using threatening language. He gradually became worse, and was finally unable to control his feelings and actions. His people were notified and were advised to have him brought to Massachusetts for treatment. On admission he complained of being persecuted and tormented by his enemies. He could frequently hear blasphemous and threatening language. He thought the people about him were conspiring to do him injury. While walking out one morning with his attendant — as had been his usual custom for about two months — with a sudden impulse towards suicide, he made an attempt to jump over the railing of a railroad bridge, with the idea of being killed by the fall. The attendant grabbed him by the leg as he went over the railing. While hanging head-foremost down, he used his free foot to kick at the attendant's hands. He freed himself, and fell, a distance of twenty-five feet, to the track below. He succeeded in doing some injury to himself, but is at the present time, I believe, in pretty fair physical health. This illustrates a case of progressive systematized insanity or paranoia. The patient was rendered desperate, as occasionally happens. He thought there was no further use of trying to protect himself from his imaginary troubles, and on the impulse of the moment took, what seemed to him the only method of ending his torture, by making way with himself. This may be the only possible solution to the minds of any patients afflicted with a disease of this character.

Let us take as an illustration of a troublesome class of cases, the following:

Woman, age thirty-one, and married. Family history good. She had gradually been breaking down in health for a number of years. She had had seven miscarriages in eight years. For the past two years she had been subject to periods of intense depression, which gradually had become more frequent, increasing in their intensity and duration. She insisted that there was a ball in her stomach, and wanted an operation to have it removed. She would constantly walk the floor, lamenting her fate, continually saying she would never get well. She had made several attempts at self-destruction: one time taking Bromidia; at another, kerosene; on another occasion she had broken glass and swallowed the pieces. She spent the greater part of her time in planning some means of self-destruction. She would ask for poison, and often attempt to bribe the other patients on the same floor with her, to bring her something that would be the means of ending her life. Very early one morning, while in the bathroom she made an attempt to jump out of the window, although one wrist was held by the nurse she wrenched herself away, falling a distance of twenty-five feet, to the driveway below. Here we find a case of melancholia, accompanied with many distressing symptoms. The visceral symptoms were prominent. They are untrustworthy cases, the danger being more marked in the early morning hours.

The next case is that of a man fifty-one years of age, with neurotic family history. His father had died in an insane hospital and his brother was an inmate of an insane hospital at this time. Nine years previous to this time he had been troubled with insomnia and nervous prostration for some months. Finally he began to sleep with the aid of sulphonal, but never fully recovered from the accompanying depression, and had been constantly dwelling upon his unworthiness for some years. He is now having great difficulty in controlling his actions; thinks he is unfit to live. He is afraid he will harm some one around him, and at times fears that he will destroy his own life. He is restless at nights; unable to sleep or obtain peace of mind at any time. An uncontrollable impulse came over him one day to throw himself in front of a train and end his sufferings in this way. He rushed out of the hospital one cold morning, clad only in a night shirt; reached the track, prepared to throw himself in front of the engine, when he was seized by four men, and with difficulty restrained from carrying out his purpose. Again we have pictured before us a case of melancholia.

During the two years above mentioned there have been, to my knowledge, fourteen patients in the private hospitals of this State, who have made very determined attempts at self-destruction, and in a number of these cases have succeeded, in spite of the most careful and painstaking efforts of the superintendents in charge. The nurse is the most important factor in protecting life, and the very best nurses are apt to take chances with a suicidal patient, after a few weeks. It becomes a constant and necessary duty of the physician to observe the nurse as carefully as the patient. Here the general practitioner often fails to realize the danger. He leaves the suicidal patient in the hands of a trained nurse. The nurse becomes careless, after a time, and the result is that the patient seizes an opportunity to commit suicide. An early diagnosis should be made in cases of depression, and the true condition of affairs discovered. Something could be done in this way to prevent the constant increase of suicides which are taking place. We are gradually getting a better knowledge of insanity, and the means adapted to caring for the suicidal insane are constantly being improved, both in the private and state hospitals for these cases. If the significance of abnormal mental depression is fully comprehended, treatment can be applied of such a nature as to protect the individual from any consequences of an uncontrollable impulse. An early removal of such patients to institutions, should be advised by the physician. There should be no disgrace attached to having a disease of this nature, and often properly directed treatment, when taken in the early stages, will leave a person in just as complete and perfect health mentally as could be expected physically in a case which had recovered from typhoid fever.

FOUR CASES OF PERNICIOUS ANÆMIA IN INSANE SUBJECTS WITH A CONSIDERATION OF THE COEXISTING NERVOUS FEATURES OF THE DISEASE.

BY S. C. FULLER, M. D., WESTBORO, MASS.

Aside from the purely nervous conditions, insane subjects are liable to almost any form of disease. It is also true that their mental disturbances may be directly traced, in many cases, to somatic lesions.

Just how much the pernicious anæmia may have been responsible for the nervous and mental disturbances in this series of cases, or *vice versa*, or, further still, was simply a condition *pari passu*, will not be easy to determine. The mental disturbance in at least two of the cases, I think, can be safely attributed to the pernicious anæmia. One of these two cases improved mentally and physically under treatment directed largely to the pernicious anæmia, and was discharged. Later the case was admitted to the Massachusetts General Hospital, where she died. The autopsy confirmed our diagnosis of pernicious anæmia. Two of the cases in the series died at the Westborough Insane Hospital and were autopsied, but in only one of them was the brain and a portion of the cord examined. In the other case an examination of the brain and cord was not permitted. One of our cases is still alive.

In another case which I have tentatively added, the autopsy revealed carcinoma of the lower third of the stomach with metastasis to the mesenteric lymph glands, and to the liver. The stomach, however, was freely patent. The discovery of carcinoma casts a shadow of doubt on the diagnosis of pernicious anæmia in this case.

In carcinoma of the stomach with marked cachexia and rapidly developing asthenia, and especially in those cases where the orifices of the organ are not involved and no tumor is discoverable on palpation, the differential diagnosis becomes difficult between pernicious anæmia and a grave secondary anæmia subsequent to malignant disease. In the above condition Bramwell[1] has pointed out that a survey of the clinical symptoms together with the blood examination are necessary to correct diagnosis. Cabot[2] lays stress upon the presence of a leucocytosis in carcinoma of the stomach, while in pernicious anæmia leucopenia is the rule. Ewing[3] maintains that "leucocytosis of carcinoma is referable largely to complications, and these complications are such as appear very constantly in rapid or advanced cases." * * Therefore, "the great variety of these complications render it unwise to draw any narrow diagnostic conclusions from the presence or absence of leucocytosis." A further characteristic of carcinoma is the low color index of the blood, and especially is this true of visceral carcinoma. Leichtenstern[4] however, has called attention to the rapid increase of Hb. in gastric cancer shortly before death. In this case, however,— after a review of the literature,— the increased color index, the leucopenia, the presence of myelocytes and megaloblasts determine me in maintaining a coexisting pernicious anæmia. The report of this case appears below (Case V).

Lichtheim[5] in 1887 first described the changes in the cord of two subjects dead from pernicious anæmia. He discovered degenerations of the posterior columns, and also, though to a less degree, changes in the lateral tracts. Later[6] he called attention to the difference between the changes in the cord in pernicious anæmia and in tabes. In the former disease the sclerosis was most marked in the cervical region. The lesions in the cord of pernicious anæmia subjects are not symmetrical, but nearly so, and the scleroses in the lateral columns are always separated from the posterior horns by areas of normal white matter. These findings of Lichtheim have been confirmed by other observers. The writer was able to demonstrate the characteristic changes in one of the cases sectioned. The lesions are not constant, as will be seen from one of our cases which was thoroughly studied in the Pathological Laboratory of the Massachusetts General Hospital.

In 1891 Putnam[7] reported a group of eight cases with diffuse degeneration of the spinal cord, "in one or two" of which "the spinal lesions had been associated with anæmia of a profound type, and in the rest with other forms of malnutrition not definitely classifiable." Later Dana[8] reported cases which confirmed the observations of Putnam. Under the heading "The Combined Scleroses of Pernicious Anæmia and Chacectic States," Dana[9], in his recent work, describes the histopathologic changes in the cord as consisting of two varieties. In the one set the lesions are old, consisting of comparatively dense scleroses, while in the other set the changes are subacute in character. This latter condition is manifested by the perforated appearance of the structure,—a condition suggestive of rapid destruction of nerve fibres. There is also œdema of the connective tissue septa. In the gray horns the degenerative changes are partly recent, and partly old. Within the present year Putnam and Taylor[10] have contributed to the literature on diffuse degenerations of the cord a paper in which is presented a clinical analysis of fifty cases and five pathological reports. They accept provisionally the classification of Bastinelli[11] who groups the cases of anæmia with diffuse degenerations in one class and those of malnutrition in another. They, however, maintain that there can be drawn no fast line; for there may be gradations between the two groups. In support of their claim they cite a case in which "pernicious anæmia was present and ran a typical course, yet spinal symptoms were recognizable for three years, their onset nearly coinciding with the onset of pallor and with a loss of flesh."

Adami[12] considering the etiologic factors in pernicious anæmia, lays great stress on infection,—either a latent or a subinfection. In this process the bacterial flora of the intestine play quite a role. To combat the toxines thus produced, Adami suggests the possibility that the essential cells of the nervous system may successfully resist local infection, but in so doing exhaust themselves, and consequently readily succumb to later toxic influences. In the formal discussion on the intoxications and infections in the pathogenesis of mental diseases and neuropathies before the tenth congress of the Societa Freniatrica Italiana, D'Abundo[13] maintained "that infections and intoxications are the most frequent sensible and active factor in the pathogenesis of nervous diseases in general, in every period of life both intra-uterine and extra-uterine. * * * The infections and intoxications of the nervous system facilitate the evolution of secondary intoxications, which feed, re-inforce and complicate the clinical pheuomena and result in complex forms due to multiple intoxications." The writer has elsewhere[14] called attention to the role of auto-intoxication as a causative factor in the production of mental disturbance. It is well, however, to bear in mind the possibility of cachectic states supervening upon purely nervous conditions. A positive demonstration of this is obviously difficult. But I have seen, frequently, insane subjects whose blood examination showed on admission and for a considerable period thereafter nothing of import, yet subsequently develop a profound secondary anæmia, and for which there could be discovered no assignable cause save the onward progress of their nervous condition.

From the prevalence of intestinal symptoms in cases of pernicious anæmia, a condition which was a feature of the majority of the cases in this series, the suggestion of the influence of the intestinal flora advanced by Adami seems plausible. Ashford[15] has recently demonstrated the frequent association of Ankylostomum duodenale with the pernicious anæmia so common among Porto Ricans. Chapirou[16] as far back as 1888 reported the case of a boy with pernicious anæmia who had associated Bothriocephalus latus.

With regard to the prevalence of pernicious anæmia in New England, Cabot[17] thinks the disease is common. In May, 1900, he reported to the Assoc. of Am. Physicians 110 cases which he had collected in seven years. He states that one-third of his cases showed nervous symptoms. In more than 700 individuals whose blood the writer has examined,— all living in New England, pernicious anæmia has been observed nine times. Six of these cases have been in insane persons.

Abstracts from the clinical records and pathological reports of five of these cases are here presented:

Case I. Mrs. B———, aet. 49, was admitted to the Westborough Insane Hospital Sept. 12, 1898, her insanity at that time being of four months' duration.

Family and previous history unimportant.

Status Praesens. A slightly built and poorly nourished female weighing 109 pounds. Heart and lungs are normal. The urinalysis shows nothing of importance. The pupillary reactions are normal. The patella reflexes are diminished. Mental activity is diminished; the perceptions, memory and will are normal; the emotions are unstable and the reasoning power weak.

The blood examination on admission showed an increased color index and an increase of small lymphocytes which comprised 44% of the total number of leucocytes. The red cells and haemoglobin were not, however, greatly diminished, a condition which may have been due to concentration of the blood. The patient for four or five months made no improvement. She complained often of abdominal pain, and diarrhœtic attacks began to be common. A blood examination at this time revealed Hb. 63, red cells 2,320,000, leucocytes 3320. Differential count of leucocytes: large lymphocytes 3⅕%, small lymphocytes 47⅕%, neutrophiles 49%, eosinophiles ⅖%, myelocytes ⅕%. Normoblasts, macrocytes, microcytes and poikilocytes were observed, but no megaloblasts or microblasts were encountered. Five months later the blood picture was worse. Hb. 25, red cells 1,600,000. Leucocytes 3000. Diff. Count: L. lymphs $6\frac{4}{6}\%$, S. lymphs 45%, neutrophiles 46%, eosins. 1%, myelocytes $1\frac{2}{6}\%$. Normoblasts and poikilocytes were observed. The pallor was now more marked,— assuming a yellowish tinge, and asthenia and emaciation were progressing. The administration of Iron having failed to produce satisfactory results, Fowler's Sol. was exhibited with a most gratifying outcome. Six months after this time the mental and physical condition were much improved. The blood picture approached more nearly the normal, but there was still a color index of 1+. The patient was then discharged, having recovered from her insanity which was acute melancholia. At a later period she was admitted to the Massachusetts General Hospital where she died. I am indebted to Dr. James H. Wright, the pathologist to that institution, for the anatomical diagnosis of the autopsy on this case.

Anatom. diagnosis. Pernicious anæmia, fatty degeneration of myocardium, defective closure of foramen ovale, ecchymoses on pleura, oedema of lungs, syphilitic hepatitis, chronic passive congestion of spleen, fibro-myomata of uterus, polypi of uterus, chronic internal haemorrhagic pachymeningitis, osteomata in pia-mater of spinal cord, and lipoma of subcutaneous tissues in the region of the left posterior axillary line.

Microscopical examination of Cord. Sections of the Cord from the cervical, thoracic and lumbar regions prepared after Vassale's modification of the Marchi method fail to show any good evidence of degeneration. Sections stained by Mallory's method for proliferation of neuroglia or degeneration in nerve tracts were negative. Pal's modification of Weigert's method showed no degeneration (Dr. Wright).

Case II. Mr. L———, an Italian fruit peddler, aet. 30, was admitted to the Westborough Insane Hospital May 19, 1900. Nothing is known of his family history. Of his previous history very little is known. He had formerly been an inmate of the New York City Insane Hospital, and had been discharged recovered. Six months prior to admission he had been an inmate of the Marlborough Almshouse, where he had acted strangely and given evidence of possessing hallucinations of sight which led to his commitment.

Status Praesens. The patient is a male of slight build, weighing 126 pounds. Although possessing features of a dark cast, pallor with a decidedly lemon yellow tinge is marked. The heart sounds are normal. The lungs give evidence of bronchitis. The urinalysis is negative for kidney lesions. The patella reflexes are diminished, the superficial reflexes normal. There is no Romberg sign, no Babinsky phenomenon. The pupillary reactions are normal. Memory is impaired. The blood examination shows Hb. 55, red cells 1,800,000, leucocytes 4,520. Diff. Count: L. lymphs $18\frac{2}{6}$%, S. lymphs $51\frac{2}{6}$%, neutrophiles 29%, eosins. 1%, myelocytes $\frac{2}{6}$%. Normoblasts, megaloblasts and poikilocytes are present.

The patient did not respond to treatment, although Fowler's Sol. and Bone Marrow were administered. Repeated examinations of the blood showed that the disease was not being impeded in its onward march. In the short space of two months the Hb. had been reduced from 55 to 11, and the red cells from 1,200,000 to 608,000. An increasing asthenia marked and rapid in its development, frequent attacks of epistaxis of an exhausting nature, and later pronounced anorexia were the leading and most distressing features in the clinical history of this case. The patient towards the end was unable to walk, or even sit up or move himself in bed, but this inability, so far as the attending physician (Dr. Klopp) could determine, was due to the asthenia rather than to paraplegia. The mental feature was that of Secondary Dementia. The patient died after a hospital residence of two months and eleven days. Unfortunately a section was not permitted.

Case III. Mr. L———, aet. 62, was admitted to the hospital nine years ago (1892), his insanity at that time being of three years' duration. His family history is unimportant. The patient at the time of admission gave a history of a fall ten years previous with resulting injury to the spine. Until August, 1899, there is nothing of special interest to report. He has always had delusions of persecution, and is hypochondriacal. He has for several years complained of a girdle-like constriction about the chest. A recent examination (Dr. Colby) reveals no spinal deformities, no Babinsky phenomenon; and an attempt to elicit the Romberg sign is attended with only a slight swaying. There is "flat foot" of both sides and a tendency to varicosis. The pupillary reactions are normal, the knee reflexes diminished. The elbow jerk is absent. The urinalysis show hyaline casts which are fairly numerous and which have been persistently present for more than two years, but albumin has been observed in only the slightest possible trace. The pericardial dullness is increased, the heart's action weak and irregular. No murmurs could be heard. Moderate exertion is followed by shortness of breath. There are fine muscular tremors.

In August, 1899, the attending physician noticed in the patient a loss of flesh, an increasing asthenia and pallor, and frequent attacks of diarrhœa. August 28, 1899, I examined the blood, which showed Hb. 36, red cells 1,600,000, leucocytes 4200. Diff. Count: L. lymphs 3%, S. lymphs $32\frac{2}{10}$%, neutrophiles 63%, eosins $1\frac{8}{10}$%, the majority of the last being of the myelocyte type. Normoblasts, megolablasts, microblasts, poikilocytes and polychromatophilia of red cells were observed. Clinically the patient has improved under treatment directed to the pernicious anæmia. While the general condition of the blood is, in a way, better, repeated examinations show a color index of 1+, the persistence of myelocytes, microblasts and poikilocytes. There is no longer pallor, in fact the man has a florid complexion and the diarrhœa is not now a factor. He is becoming more corpulent and has a good appetite. The diagnosis of the mental condition is Secondary Dementia.

Case IV. Mrs. S——— was admitted to the Westborough Insane Hospital January 5, 1895. Her age at this time was 45. Her mother and a sister were insane. The menopause in her case was at the age of 30. The physical condition at the time of admission is unimportant. For five years her physical condition had been such as to enable her to render very useful service in the hospital laundry. In July, 1900, she began to develop an asthenia, and rest in bed was instituted. There was pallor of a waxy appearance, which later took on a decidedly lemon yellow tinge, and the asthenia became rapid in its progress. July 23, 1900, the blood condition was Hb. 30, red cells 1,280,000, leucocytes 5000. Diff. Count: L. lymphs $3\frac{8}{10}\%$, S. lymphs $46\frac{6}{10}\%$, neutrophiles $46\frac{8}{10}\%$, eosins. 1%, myelocytes 1%. Megaloblasts, macrocites, microcytes and poikilocytes were observed. Four months later the Hb. was 14, red cells 800,000, leucocytes 3000, and numerous megaloblasts were present. The blood condition grew even worse, so that in the week prior to death the Hb. registered less than 10, and the red cells 540,000. The patient died January 19, 1900. The mental condition was paranoia. Autopsy 26 hours after death.

Anatomical Diagnosis. Pernicious anæmia, anæmia of brain and upper cervical cord, (only the upper portion of the cord could be autopsied, as much as could be removed with a myelotome), "thrush heart," fatty degeneration of the myocardium and dilatation of the right ventricle; pleurisy with effusion and hypostatic congestion of the lungs; parenchymatous nephritis; fatty degeneration of liver; anæmia of spleen, stomach and intestines with old adhesions of the last; osteoma in the upper external quadrant of the right mammary gland; general anasarca of the musculature; and proliferation of bone marrow.

The most interesting histological changes were the degeneration in the post. and lateral columns of the part of the cervical cord studied, the lateral degenerations being separated from the posterior ones by bands of normal white matter (Weigert Pal Method). In the marrow of the femur there was present the characteristic hyperplasia, the majority of the red cells were nucleated, and there were but a few fat cells present. The sections from the myocardium showed characteristic fatty degeneration.

The protocols and full microscopic reports of these cases have been omitted so as not to render the article tedious.

Case V. Ida M———, aet. 35, was admitted to the Westborough Insane Hospital June 8, 1898, her insanity was then of one week's duration. Her mother was insane, a sister committed suicide, and there is a brother with unstable mentality.

Status Praesens. The patient is a woman of small build, weighing 86½ pounds, and is very poorly nourished. The lungs are normal. There is a mitral regurgitant murmur of the heart. The urinalysis reveals no kidney lesions. The pupillary reactions are normal. The knee reflexes are absent. No Babinsky phenomenon, and only slight swaying when the attempt is made to elicit the Romberg sign.

There is nothing of special interest in the clinical history of this case from June, 1898, the time of admission, to February 13, 1900, on which date a small circumscribed oval growth 7 mm in its longest diameter, was removed from the external surface of the upper lip. The clinical diagnosis of this growth had been carcinoma. Sections of the tumor showed a typical adenoma, and the opinion was given, that the growth was probably non-malignant. The patient made an uneventful recovery and there was never any recurrence of the growth. No other evidence of carcinoma could be physically determined.

Pallor, emaciation and asthenia progressed, and late in the course of her disease vomiting, after taking nourishment, became a prominent symptom. There was tenderness over the epigastric region, but no tumor could be outlined.

At the autopsy the external contour of the organ was normal, but on section the lower third was the seat of an annular thickening which was in some portions as much as 4.5 cm thick, and causing considerable diminution in the calibre of the organ, but no obliteration. Oct. 3, 1900, a blood examination showed the following: Hb. 52, red cells 2,000,000, leucocytes 5,600. Diff. Count: L. lymphs 21%, S. lymphs 30%, neutrophiles 37%, eosins. 4%, basophiles 1%, myelocytes 7%. Normoblasts, megaloblasts, poikilocytes and Grawitz[18] degeneration of megaloblasts were present. The patient died Oct. 29, 1900. Her insanity was mania. Section eight hours after death. Unfortunately permission to examine the brain and cord could not be obtained.

Anatom. Diagnosis. Mitral insufficiency, degeneration of myocardium; emphysema of lungs; anæmic kidneys; metastatic carcinoma of liver; carcinoma of stomach; metastatic carcinomata of mesenteric lymph glands; chronic interstitial pancreatitis; cystic ovaries, and proliferation of bone marrow.

Histologically the bone marrow showed the characteristic changes of pernicious anæmia.

SUMMARY.

I and II are the cases whose mental condition it is considered may have been due to the pernicious anæmia. In the case of the Italian fruit-pedler (Case II), there was a history of an admission to a hospital several years previous, and at which time, it was later learned, he had pernicious anæmia. He recovered and was discharged. Presumably with a remission of the disease we have a return of the mental symptoms followed by death.

Case I, to be sure, gave evidence of syphilis as shown in the syphilitic hepatitis and, perhaps, also in the chronic pachymeningitis, but it is to be remembered that her mental condition greatly improved under treatment directed to the anæmia.

Cases III and IV did not develop the clinical symptoms of pernicious anæmia until after a hospital residence of several years. At the periods of their admission it was not the custom to make systematic examinations of the blood. It is impossible, therefore, to state the condition of the blood at that time. But the apparently fairly good physical condition of the two cases, despite the hypochondriacal delusions of one case which have been present since admission, warrants the assumption that the nervous and mental disturbances were etiologic factors in the pernicious anæmia of these two cases.

The influence of pernicious anæmia in the production of nervous and mental disturbances was advanced by Lepine[19], Wilks, Coupland, and subsequently illustrated in cases reported by Curtin; Ewing[20], however, in his recent work states that "the functional disturbances of the nervous system cannot be claimed to act as more than somewhat distant predisposing causes."

Of case V, which is the one tentatively added, I would state that annular carcinomata of the pylorus have been frequently seen at autopsy where the blood has shown before death the typical changes of pernicious anæmia. The explanation of which is advanced (Ewing) "that there is a rapid and general or slow and partial establishment of the marrow changes."

Spinal symptoms were not prominent features of any of the cases in the series.

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The meeting adjourned at 5.15 P. M. to meet at Young's Hotel, where dinner was served to one hundred and sixty-five members, and at eight o'clock the annual address by the President was delivered and very much enjoyed by all present.

PROCEEDINGS

OF THE

SIXTY-FIRST SEMI-ANNUAL MEETING.

OCTOBER 8-9, 1901.

The sixty-first semi-annual meeting was held at Pilgrim Hall, Tuesday evening, October 8, and Wednesday, October 9, 1901.

The evening session was devoted to the bureau on *Materia Medica.*

Wednesday's session was called to order by the President, Geo. S. Adams, M.D., and as no quorum was present the meeting was turned over to the Chairman of the Committee on Surgery. At 12.30 P.M. the records of the last meeting were read and approved.

The Secretary was instructed to cast the vote of the Society for the following named candidates, and they were duly elected to membership:—

Henry H. Braley, M.D., Concord.
Clarence Crane, M.D., Boston.
Frederick W. Dodge, M.D., Boston.
Adelbert M. Hubbell, M.D., Haverhill.
Seth Ames Lewis, M.D., Springfield.
Abby Swan Morse, M.D., Gloucester.
Myrton B. Raynes, M.D., Melrose.
H. Leon Steele, M.D., Norwood.
John F. Valentine, M.D., Danvers.

The Secretary was instructed by the Executive Committee to offer the following amendment to the By-Laws: To amend Article XVIII by dropping the word "upon" line three, and inserting the words "three years after." Inserting after the word "election" line three, the words "provided he is in good standing." Also dropping the word "therefor" at the end of line three. When amended the article shall read:—"Every applicant for membership shall deposit with his application in the hands of the Recording Secretary, the sum of five dollars, and shall, three years after his election, provided he is in good standing, receive the diploma of the Society, signed by the President and Secretary. Should an applicant fail of election the money shall be returned to him."

At 12.45 the meeting adjourned and luncheon was served in the corridor. At 1.45 the meeting was again called to order by the President, George S. Adams, M.D., and the Annual Oration was delivered by Amanda C. Bray, M.D. of Worcester.

ORATION

PROGRESSIVENESS OF MEDICINE.

BY AMANDA C. BRAY, M. D.

Mr. President, Members of the Society and Guests: —

We have assembled to celebrate another anniversary of the Massachusetts Homœopathic Medical Society, an organized institution of the State, bearing the seal of the highest authority in this ancient and honorable Commonwealth. An institution, whose object is the advancement and perfection of the science of medicine in all its branches, and we are here, as pledged members, to do our part in completing the building of the great temple of medical science.

When a person joins a society, he does it with the object in view of helping that organization, and also of receiving in return something that is helpful to himself, and whenever one is asked to do some work (no matter in what direction) for that organization, it is his bounden duty to do whatever task is required of him as well as he can do.

The request that I should undertake this duty confers upon me a great honor for which I bring my cordial acknowledgment. It also brings with it a responsibility so heavy that it fills me with anxiety, for it is a difficult thing to follow the many able members who have preceded me in this high office. It is such an easy thing to criticise the efforts of one's colleague, but if each and every one of us would just take one turn at the wheel our bump of charity would soon rapidly develop.

There are two kinds of people on earth today,
Just two kinds of people, no more, I say.
And the two kinds of people on earth I mean
Are the people who lift and the people who lean.
Wherever you go you will find the world's masses
Are always divided in just these two classes,
And, oddly enough, you will find, too, I wean,
There is only one lifter to twenty who lean.

Let every member of this Society be a lifter. Let each one do his or her part in making this Society one of the staunchest strongholds of Homœopathy, whose influence shall be unlimited, and whose strength shall be as enduring as the granite cliffs that protect the walls of our State from the ceaseless washing of the grand old ocean.

My theme is not a new one. My thoughts are not brilliant, but if I give you one little seed of inspiration my mission will be fulfilled, and I shall have done my duty.

History teaches that all progress is the result of two forces — Evolution and Revolution. Evolution takes hold of facts, and by the application of reason and logic — unfolds the difficult problems, brings about a peaceful conclusion.

Revolution turns the forces into a seething mass whose primary result is disturbance that may be far-reaching, and it is said that Revolution should be reserved as the last resource when Evolution has failed to bring order out of chaos. The Revolutionary methods of treating diseases by aggravating already disturbed organs has given way to the Evolutionary method of following in nature's steps — pacifying the disturbed organs — giving rest instead of stimulating the turmoil, and allowing the vital forces to gather themselves, rather than to exhaust their vitality.

The medical orator of today, standing between the two centuries, must naturally, while regarding the present, look backward and then forward, and it is good to look back upon the conditions of medicine in former times and find that it has always kept pace with the progress of the physical and moral sciences.

It is difficult to trace the improvement in successive eras because they melt into one another — blending by indefinable gradations.

In the earliest periods the practice of medicine consisted in the usage of agents hung around the neck as an amulet to chase away disease, as the word abracadabra was supposed to drive away the ague. Many peculiar properties were attributed to the deities. Among the Egyptians, the anger of Isis being regarded as the cause of most ailments. It was appeased by burning resin in the morning, myrrh at noon, and something in the nature of a composition called cyphy at night, in the temple dedicated to the goddess, and to this temple the sick were taken that the Oracles might reveal to them the means by which they might be cured.

The earliest authentic records are found in the Scriptures when Joseph commanded his servants and physicians to embalm him (1700 B. C.) showing that Egypt possessed a set of medical men and that they embalmed the dead.

The Indian races, though accused of many absurdities, claimed to cure the bites of venomous snakes, and compounded an ointment which eradicated the cicatrices of smallpox, a result which has not been attained in the present epoch. Æsculapius who occupies the most conspicuous place in the history of medicine, is always painted with a staff — symbolical of support, and the serpent entwined around it the symbol of wisdom. His sons are considered the fathers of surgery, and for their valor at the siege of Troy have been classed by Homer among the Greek heroes.

The early Greeks recognized the value of physical culture which today occupies a prominent place in our curriculum. Were our children like the Greeks compelled to follow a routine of physical training, many a delicate and infirm constitution would be replaced by a rugged one, and the weak-minded, now so conspicuously present, would be eradicated and the race propagated would develop a stronger character.

Hippocrates caused a revolution in medicine. He classified sporadic and epidemic forms of disease, dividing them into chronic and acute.

He was a close observer and thoughtful teacher, taught physicians to observe attentively the progress of nature, and truly the "divine old man is the Father of Physics."

Of all the physicians of antiquity, Galen was probably the most brilliant genius. He was the first vivisector, by exposing the muscles of animals and demonstrating their functions, and his classification according to their use is in vogue at the present time.

In the sixth century, medicine was almost exclusively exercised by the Monks of the West. They resorted to prayer and were really unworthy the name of physician. In the twelfth century the school of Salernum acquired a considerable prominence through the influence of Emperor Frederick II, and about this period the titles of bachelor, licentiate and master were granted to physicians. In the thirteenth and fourteenth centuries medicine made remarkable progress in France under St. Louis. During this prince's reign medicine and surgery were divided into separate and distinct classes. Medical institutions were encouraged and universities were erected under the patronage of royalty, and during this century anatomy was taught by dissection of the human body for the first time in Europe.

The fifteenth century was one of continual improvement, and during this era the operation was devised for replacing the nose when removed by accident or disease, by using a piece of flesh taken from some part of the body and grafting into place.

Ambrose Paré contributed largely toward the achievements in the latter part of this century in his discovery of the means of controlling hemorrhage by tying the bleeding vessels, thus doing away with the former crude methods of pouring hot oil on them, or using a hot iron, and this before the days of Anæsthesia.

Every age of ancient, mediæval, or modern medicine has had its charlatans, and the greater the progress of civilization the more popular these quacks became with certain classes of people, although no class is exempt from their influence. Unscrupulous and unprincipled they play upon the credulity of the ignorant.

Paracelsus stands out prominently as the central figure of the fifteenth century, a man given to drink and debauchery, who advertised extensively and who exerted a marked influence in his time.

The seventeenth century was characterized by the discoveries of Wm. Harvey, who did not give to the world the result of his researches till after fifteen years of labor and positive proof.

Chemistry assumed the dignified aspect of a science, and the knowledge of capillary circulation and the lymphatic vessels was made known. Peruvian bark as a specific for malaria was first used during this epoch.

Opthalmology was first cultivated in France. Cataract was first recognized and diseases of the ear systematically described, and the century was one of marked progression.

In the eighteenth century the march of progress was steadily onward. Eminent observers were studying the structure of cells with the microscope. The treatment of the insane was changed from barbarous methods to scientific ones, with comforts and adjuncts more like home surroundings. A hundred years ago Edward Jenner was practising in Chiltenham. Educated by John Hunter, the naturalist, he became and remained a naturalist, not, however, neglecting medicine. His love for fossils, hedgehogs and cuckoos kept company with his love of medical work, and while studying the haunts of the cuckoo he was also experimenting with the manufacture of tartar emetic of which he manufactured an improved product. In 1801, Avenbrugger, the inventor of modern percussion, was living, though advanced in age. Addison, Bright, Earl, Guthrie and Lawrence were youths. Many admirable drugs were in vogue, aconite, colchicum, mercury, arsenic, iron, antimony, bismuth, belladonna, ipecacuanha, digitalis, opium, the salines, vegetable bitters, and were ably wielded with success.

An elderly physician remarked a short time ago, "we want no more drugs but we do want to know how to use better those we have."

There is a great deal of truth in this, for it is impossible to note without alarm the yearly invasion of new synthetical remedies, many of them undoubtedly harmful. What would the author of Ecclesiasticus have said if he had lived in these times? He wrote, referring to his own day:—"Of the works of the apothecary there is no end and from him there is peace over all the earth." Also, "the Lord hath made medicine out of the earth; he that is wise will not abhor them." Also, "He that sinneth let him fall into the hands of the physician."

Yet I no not mean to discourage pharmacological research, for the practitioner of 1801 had no iodides nor bromides; no carbolic acid nor quinine; no chloroform nor cocaine; no morphine nor atropine; no strychnine nor chloral, and how could the physician of today practice without these and many other new ones.

The nineteenth century has been a continuation in medical advancement until the whole world has become one large school of scientific and exact medicine as fully as discoveries so far permit.

Hahnemann gave to the world his Oganon of the Healing Art in 1810. Materia medica and the laws of physics have been vastly enriched. Helmholtz gave us the ophthalmoscope; Seebeck, thermal electricity; Daguerre, photography; Edison and Bell electrical achievements which affect medicine. Praraz, a Lyons surgeon, the hypodermic syringe. Corvisart of France first made use of percussion, and Laennec gave us the stethoscope.

Early in the century the extraordinary development of associations devoted to scientific medical research was a significant feature, together with the publication of medical literature and journals. The latter half of the century was wonderfully rich with new material. The Röentgen Rays; Pasteur's wonderful investigation; Koch's discoveries; Sir Joseph Lister's epoch-making results, ether and chloroform anæsthesia — the rapid strides of surgery, and the departments of physiology — and it is not too much to say that the whole realm of Nature has been ransacked to find remedies to battle disease from the animal, vegetable and mineral world, while every available physical force — heat, light and electricity, have been used as adjuncts.

As we reflect over the status of medicine today, the thought strikes us how much more we owe to the biologists and the men of science than to the practical man.

Think of the years of unceasing, unremitting study and experiment upon the cell theory, which gave Pasteur his inspiration and led to Lister's conclusions — then on to bacteriology, the most impressive department of medical biology.

In 1849 the first staining with carmine was used in some botanical work, which opened up the way to the practical investigators of medicine, and in 1882 Koch first stained with methylene blue the bacteria he had learned to cultivate, and thus discovered the bacillus tuberculosis, the consequences and far-reaching results of which we are all familiar.

The antitoxins are among the most valued results of modern investigation, and we owe their great discovery to eminently scientific men.

Is the day far distant when we shall possess antitoxins for most of the infectious diseases, as effective in results as that now employed against diphtheria?

The animal extracts have doubtless a great future in medicine. I can do no more than allude to the recognition of myxœdema in 1873, to the naming and discovery of its connection with an atrophic condition of the thyroid gland — 1877 — and to the discovery of its antidote in thyroid transplantation in 1890 — the ovarian extracts and the suprarenal extracts yet in their infancy.

As we contemplate the standpoint of today, we recall the splendid, scientific work done by the investigators of malaria traced to the mosquito anopheles, demonstrated on human subjects (courageous sufferers for science) by the celebrated Italian biologist.

There is little doubt that they also disseminate yellow fever as demonstrated recently in Cuba, where the scientific martyr, Dr. Jesse Lazear, lost his life in seven days after submitting to the puncture of an infected mosquito.

In this hasty glance at the enormous amount of work accomplished, we are impressed by the fact that it is to the scientific man we must look for the continuation of our medical progress.

Who can predict the therapeutical standpoint of a hundred years hence? This much is assured — as the general public of today expects to be cured with all promptness — the general public of 2001 will expect even more of the practitioner in proportion to the advancement made then.

It is to the men of pure science that we must look as torch-bearers to lead us onward in this triumphal march of progress, and these men are made by the better education of the young. Colleges, universities and technical schools are as necessary to a country as its system of trade — for trade and medical progress rest entirely upon the progressive science.

America possesses over 100 schools of chemistry and has 10,000 students of engineering, thanks to the foresight, generosity and enthusiasm of the men of wealth of the government. Dr. T. K. Pearson, of Chicago, the donor of $4,000,000 to its university, says: "Monuments and monumental arches once finished become dead memorials — their active function ceases. The school or college live, just as does the memorial in cold statuesque granite, but *their* functions never cease; education goes on from day to day, thinkers are moulded, the nation is served, humanity is benefited by the college."

It is trained intelligence that directs the energy of the world, and the nation which elevates to the highest standard the education of its people will lead the world.

Any reference to the medical standpoint of today would be incomplete without some mention of the Public Health Act and the coöperation of the sanitary medical service. In every town and district there is the health officer who is the guide and friend of every household where epidemic disease makes its appearance. It is to his labors the existence of isolation hospitals, better sanitary conditions and the better foods, that the death rate is diminishing.

Let us hope the day is near when the total abolition of consumption and tuberculosis will be effected. Dr. Koch, in his address before the British Congress, on Tuberculosis, on July 23, says: "Only a few decades ago the real nature of tuberculosis was unknown to us; it was regarded as a consequence, as the expression, so to speak, of social misery, and as this supposed cause could not be got rid of by simple means, people relied upon the probable gradual improvement of social conditions and did nothing. All this is altered now. We know that social misery does go far to foster tuberculosis, but the real cause of the disease is a parasite — a visible palpable enemy which we can pursue and annihilate just as we pursue and annihilate other parasites and enemies of mankind. Such a conflict requires the coöperation of many, if possible of all, medical men, shoulder to shoulder with the state and the whole population; and the moment is at hand when such coöperation is possible. The important lesson of the past is that it is a great blunder to treat pestilences according to a general scheme. No matter what the pestilence in question was, cholera, plague, or leprosy, quarantine and useless disinfection was always resorted to. But we now know that every disease must be treated according to its own special individuality, and that the measures must be accurately adapted to its special nature, its etiology. By the aid of the microscope and experiments upon animals, every case of plague can be recognized with certainty, and all through infection of ships, quarantine isolation of the patient, the disinfection of infected dwellings and ships, the bubonic plague has been transmitted everywhere. It has been discovered and demonstrated that the real transmission of the disease is by rats, and there is no doubt that in by far the majority of cases in which the plague has been transmitted by ocean traffic, the transmission took place by means of plague among the ship's rats. It has also been found that wherever the rats, intentionally or unintentionally, were exterminated, the plague rapidly disappeared. This connection between the human plague and the rat plague has not been known until recently, so that no blame attaches to those who devised the measures now in force, if those measures have proved unavailing.

With cholera the case is different, under some conditions it may be transmitted from human beings to other human beings, but its most dangerous propagator is water, and therefore the combating of cholera water is the first thing to be considered.

Leprosy is caused by a parasite which greatly resembles tuberculosis, and like tuberculosis it does not break out till long after infection, and its course is almost slower. It is transmitted only from person to person, but only when they come into close contact, as in small dwellings and bed-rooms.

Immediate transmission plays the part, not by animal or by water, and the combative measures must be directed against close intercourse between the sick and the healthy. The only way is to isolate the patients. This was vigorously done in the Middle Ages by means of numerous leper houses, and the consequence was that leprosy, which had spread to an alarming extent, was completely stamped out in Central Europe.

In combating pestilences we must strike at the root of the evil and not squander force in ineffective measures."

After speaking of the experiments made on cattle, as asses, goats, sheep and cows, with bovine and human tubercle bacilli, Koch concludes by saying that " we can diagnose the two by cultivating in pure culture the tubercle bacilli found in tuberculous material by inoculating cattle with them; and cattle fed on the milk and pieces of the lung of tuberculous cattle fall ill of tuberculosis; those fed with human material do not." The important question whether man is susceptible to bovine tuberculosis at all is not yet absolutely decided, but one is at liberty to say that it is hardly greater than that of hereditary transmission, and it is not advisable to take any measure against it. This makes the *main* source of infection the sputum of consumptive patients and the measures for combating the disease must aim at the prevention of the dangers arising from its diffusion.

One's first thought would be to consign all persons suffering from tuberculosis of the lungs, whose sputum contains tubercle bacilli, to suitable establishments, but this is absolutely impracticable.

Every medical man who enters the dwellings of the poor knows from experience how sad the lot of the consumptive is. The whole family live in one or two small, ill-ventilated rooms. The necessary cleanliness is difficult to be secured, and how can a helpless patient remove his sputum so that it may do no harm? At night the whole family are crowded together; the sufferer scatters the morbid matter secreted by his diseased lungs every time he coughs, and his relatives must inhale this poison. Thus whole families are infected. They die out and awaken in the minds of those who do not know the infectiousness of the disease, the idea that it is hereditary, whereas it is simply a process of infection whose consequences do not appear at once. In densely inhabited tenement houses the infection spreads from neighbor to neighbor, as the investigations of Biggs have shown; in the densely peopled part of New York regular nests or forci of infection are formed. It is not so much poverty as bad domestic conditions under which the poor live, especially in great cities.

The German statistics show that tuberculosis is less frequent, even among the poor, when the population among the poor is not densely packed together.

It has been demonstrated that tuberculosis is not hereditary, and is not transmitted through the food we eat and the milk we drink, but it is proven that the over-crowded dwellings of the poor are the real breeding places of tuberculosis; it is out of those that the disease always crops out anew, so it must be to the abolition of these conditions that we must first and foremost direct our attention if we wish to attack the evil at its root and to wage war against it with effective weapons. If we are not able to get rid of the danger which small and over-crowded dwellings involve, all we can do is to remove the patients from them and lodge them in some suitable hospital.

If only a considerable fraction of consumptives were lodged in this way, a diminution of infection and consequently of the sum total of consumption could not fail to be the result. As, however, the aid of the State and the munificence of rich benefactors cannot for some time to come furnish all the hospital facilities needed, other measures must pave the way and serve as a temporary substitute for them. In this conflict with tuberculosis we cannot dispense with obligatory notification; not only do we need it to inform ourselves of the dissemination of the disease, but also to learn where help and instruction can be given, and disinfection, which is so urgently necessary where consumptives die or change their residence, especially those whose domestic conditions are sources of danger. Not only disinfection of dwelling houses, but also of beds and clothing of the consumptive should be faithfully done and a further measure would be the instructing of all classes of people as to the infectiousness of the disease.

The instructions should be shorter and more precise than they generally are, special emphasis being laid on the avoidance of the worst dangers of infection; sleeping in small bed-rooms, working in ill-ventilated shops with consumptives.

As tuberculosis is believed and almost proven to be curable, even in its advanced stages, everything possible must be done to bring this about by careful organization. First, the patient and his family should be told the nature of the disease and that it is curable, making the family helpers in the cure, for the wife looks after the cleanliness of the home and uses prophylactic measures.

As it is, we frequently do not get hold of the patients in the first stages of the disease, and the suggestion is that polyclinics for tuberculosis should be established in large towns where a medical man provided with the things necessary attends to patients throughout their illness or until they can be admitted to sanitoriums or hospitals.

It is not possible to tell that a traveler at the frontier or the port is a consumptive, but it would be possible to take international steps in another way. Railway carriages, steamboats, and especially hotels, should be compelled to disinfect rooms where consumptives have been, and the traveler no longer exposed to the germs of contagion.

The Minister of Interior in Germany has brought in stringent measures. Every practitioner who attends a case of laryngeal or pulmonary tuberculosis must report it in writing to the authorities as soon as his diagnosis is made. After death, his room as well as all his belongings must be disinfected. Hotel proprietors, furnished house keepers, asylums, and all public institutions are compelled to notify at once every case of tuberculous disease that arises in their establishment. Once convince our fellow citizens that tuberculous contamination can be avoided and that in addition the disease can be cured, private initiative will be left behind, anti-tuberculous efforts will multiply and coördinate; the State will not be able to stand aloof from a common effort, and the whole civilized world will succeed in exterminating the cruellest scourge that has ever fallen on us, our children, and our friends, and which threatens the future of our country. Legal regulations should include the proper ventilation of the street railway cars, for where can one get into a greater nest of foci for infection than a vestibuled street car containing one hundred and twelve persons with not a ventilator opened, and the heat turned on.

As we look back over the records of the nineteenth century with the name of Jenner inscribed at its beginning and of Pasteur at the end, the human race has cause for rejoicing. More progress against suffering disease and death has been made during the reign of the nineteenth century than in any one of the centuries which preceded it. The latter part of the nineteenth century has seen the development of the profession of the trained nurse. Thirty-five years ago, the training school of Bellevue Hospital graduated five nurses. Today no hospital is complete without such a training school, and the work of the physician is made easier; his success is surer by the able assistance and wise guidance of the invalid through the different paths of illness by the trained nurse.

The matter of diet has become reduced to a science, and the manner of feeding the sick has been revolutionized in the last twenty-five years. If we scan the moral progress of the nineteenth century, allowing for its inconsistencies, the ethical development of the race has been well marked, but in this direction the physician has yet a large mission for his labors. Will the day ever come when there shall be an equal standard of morality for both sexes? Slowly but surely the world is awakening to higher truths upon the questions of social and personal morality and help, and we look for a larger advancement of education in this direction from the influence exerted by the medical profession;

for surely the experienced physician does most clearly see that pure morals and sound health are one; that neither can be infringed without dire penalty and never borne by the transgressor alone but passes into the innocent and helpless.

In concluding I must say just a word about the aims, aspirations and ethics of the profession. As health and happiness are in the physician's hands and the issues of life and death hang upon his judgment, so he must bear himself with confidence, remembering his great traditions and the antiquity of his calling which ranks next to that of priest. He must work hard; read and think all the days of his practicing; for the best of today will not be that of five years hence. His aspirations must be for the very best in each department of science; for the progressive advancement of his art. The wise practitioner will confine his studies within certain limits if he wishes to attain to a thorough knowledge of even some portions of his great subjects; he cannot be a universal specialist.

In regard to medical ethics the case is simple; treat and think and speak of your brother practitioners as you would wish them to treat, think and speak of you; for reason must be your daily guide. As the grand army of humanitarian workers was never so large as at the beginning of this century, so it was never better fortified for attack upon the enemies of health, fuller of enthusiasm, or more deeply fixed in the confidence of the people. Medical institutions are upon the loftiest plane in their history; teachers are better endowed; scholastic preparation has been lengthened; and curriculums enlarged, securing the highest mental equipment.

Auxiliary and material agencies are ever constant inspirations to skilled treatment and fresh researches; and with Carlysle we feel that "Man is bound to expend every particle of strength which God Almighty has given him in doing the work he is fit for, to stand up to it to the last breath of life, and to do his best."

REPORT OF THE COMMITTEE ON MATERIA MEDICA.

CHARLES H. THOMAS, M. D., *Chairman.*

I. Some Observations on the Waters of Gastein,
WALTER WESSELHOEFT, M. D.

II. A Proving of Antimonium Crudum, FREDERICK B. PERCY, M.D.
Discussion opened by Conrad Wesselhoeft, M.D.
Frederick P. Batchelder, M.D.

III. A Brief Proving of Pilocarpine, G. FORREST MARTIN, M. D.
Discussion opened by Henry E. Spalding, M.D.
Edward P. Colby, M.D.

NOTES ON THE WATERS OF GASTEIN.

BY WALTER WESSELHOEFT, M. D., CAMBRIDGE, MASS.

The observations I venture to offer at this time are by no means new. But, like many other forgotten or half-forgotten experiences, they have a value which I think we should recognize and build upon. In the earlier Homœopathic literature the waters of Gastein, a health resort in the Austrian Tyrol, with their peculiarly obscure chemical and physical properties and their centuries-old fame for curative powers, were repeatedly the subject of original investigation and both scientific and practical essays, such as we rarely see in these days. Indeed, since the manufacturing chemist has become to be the teacher of the physician in all matters pertaining to medicinal therapeutics, and claims to produce substances curative for almost every known form of disease, we are too apt to overlook the fact that nature *also* possesses a laboratory in which she compounds remedial agents of great purity and much efficacy. For us, the waters of Gastein, celebrated as they are throughout the continent of Europe, should continue to have a very special interest, since their qualities were first studied scientifically by a member of our own school. It was the late Dr. Trolle who subjected them to modern chemical and physical tests and called the attention of Liebig, Rettenbach and others to the results he obtained. During the last two years, at the instance of the town authorities, Prof. Von Thau, of Budapest, has once more taken up these enquiries, and gives in his text-book of electro-chemistry some remarkable data which we would do well to contemplate with some care. His experiments are not yet concluded and are only partially published, but when complete will undoubtedly afford some degree of comfort to those who retain a lingering regard for the genius of Hahnemann.

The origin of these waters, like much else concerning them, is still a matter of conjecture. They gush in some twenty-three springs from the mountain-side at an elevation of between three and four thousand feet above the sea level, their temperature varying according to location from 120° to 170° F. Although they pass through gneiss and conglomerate rock, it can be shown that they derive none of their chemical constituents from these formations. They are collected in reservoirs admirably constructed, and distributed through wooden and galvanized iron pipes to the various hotels and baths, where they are used by thousands of patients annually for a great variety of ailments.

Their temperature makes it evident that they come from a great depth beneath the earth's surface, but unlike other hot springs and geysers, their chemical composition gives no clue to the strata in which they take their origin. Like the waters of Poland Springs, in Maine, they are as pure as spring waters can well be, containing in 10,000 parts less than three parts of solid matter. From this it is assumed that they originate in steam produced at an intense heat and condensed in the cooler strata through which they pass to the surface. These matters are still under investigation. To us they are of interest only in consideration of the unusual purity of the water and its unquestioned effect upon certain pathologic states, proved by many centuries of experience.

The chemical and physical properties of all the springs are the same, showing them all to be of one origin although escaping through different channels.

The chemical analysis of Prof. Ludwig and others shows the water to contain potash, soda, lithia, caesium, rubidium, calcium, strontium, magnesium, aluminium, iron, manganese, arsenic, chlorine, fluorine, sulphuric phosphoric carbonic and titanic acids, and one or two volatile organic acids. With the figures in fractions of the quantitative analyses I will not weary you. Suffice it to say that these substances are present in almost infinitesimal amounts, of which the sum is, as before stated, between two and three parts in 10,000 or, to be exact, 2.421 parts in 10,000. Which of these constituents may be the bearer of the curative virtues no one can say. For us these waters constitute *one* substance or, better, one remedial agent, in the same way that any other composite substance, organic and inorganic, constitutes a single drug with a peculiar effect of its own.

The physical attributes of the waters, too, are not without scientific interest, although as yet they throw no light on its therapeutic qualities. The specific gravity is no more than 1.00034 (one and thirty-four hundred-thousandths). The water is absolutely tasteless, odorless, perfectly transparent and clear, and wholly free from fixed organic admixture and of micro-organisms. In greater quantities it shows a faint bluish tint, as in the clear white and deep-tiled basins into which it is drawn for baths. But it is a noteworthy fact that distilled water, when so exposed in a clear glass cylinder as to throw a shadow on a white surface, gives a similar bluish tinge. The use of the water in bathing and for other purposes shows its remarkable softness. In consequence of its great purity it refracts light strongly, and is, as a matter of course, an effective solvent. For the same reason it favors in an unusual degree all processes of endosmosis and exosmosis, and to this may unquestionably be ascribed its influence on the metabolism of the human organism.

A very peculiar physical property is seen in the relation of the water to the electric current. It was first demonstrated by Dr. Trolle, and afterwards confirmed by Liebig, Reisacher and Von Wallendorf, that this water permits of the passage of the electric current 6.1 times more easily than does distilled water. And here it is to be noted that at one time water was regarded as the only electrolyte, bnt it is found that the purer the water is the less does it conduct electricity. Kohlrausch and Nippoldt have shown that the presence of one ten-millionth of sulphuric acid is sufficient to account for its observed conducting power, so that the weight of evidence goes to show that water is not an electrolyte at all. (*Encyclopedia Brittannica.*) These are old established facts, but the phenomenon appears to me so important that I must ask your attention to its explanation, so far as an explanation can be offered to-day. We gain some light, if we consider the fact, now established beyond a doubt, that solutions of salts, acids and bases in a highly diluted state, possess the power of conducting electricity more readily the more these substances are subdivided, *dissociated* as the term is, in their solutions. This ability, therefore, to conduct the electric current is dependent on the peculiar molecular arrangement of the elements contained in the water; their division into ions (a term coined by Faraday to denote the separated component parts of substances attracted respectively by the anode and cathode.) But it would lead us too far to enter further into the intricacies of electrolysis. It is important to note, however, that these ions, or dissociated molecules, possess a high degree of electrical tension or stress. They are in fact the real bearers of electricity.

In the same way the fixed constituents of the Gastein water are dissociated, separated into their ions, and are known to have all the attributes of this form of matter, that is, matter in a state of extreme subdivision, dissociation. But, if we pursue this observation a step farther, we shall see that the process of reducing matter to its dissociated molecular form may not only be effected experimentally by the electric current, but that it occurs, as in these waters, in nature's own laboratory under the action of forces of which as yet we know little or nothing. That which interests us particularly is the *fact that it occurs.* And the question arises whether we can, by any technical devices within our power, bring about a like state of subdivision and stress of tension of force or forces *without the aid of electricity.*

No answer can come to this question save by the means of repeated experiments in the hands of experts. I had hoped to present the results of some simple experimentation with the electrometer on several pure spring waters and on distilled water. But these must be reserved for a future occasion.

In the meanwhile, I believe that we are warranted in accepting these electro-chemical facts as the starting point for new investigations into the effects of medicinal substances in a state of extreme comminution. To advance fresh theories on the subject would be, as we know too well, the idlest possible expenditure of energy. Here we have it in our power to deal with matter in its molecular form (which is, of course, a theoretical assumption, since molecules are neither visible nor measurable), but we know matter to be present in appreciable and actually measurable quantities. The quantitative analysis enables us to determine the precise amount as the qualitative analysis enable us to judge of its chemical character and relations. We are not, therefore, dealing with purely hypothetic assumptions, but may proceed on strictly practical and scientific lines within the range of positive observation and without opening again those discussions which from the first have retarded our progress and in so great a degree paralyzed our efforts.

I am well aware that even conclusive experiments conducted in the laboratory with the most delicate instruments afford no proof whatever of the medicinal or curative virtues of substances in minute quantities in the most perfect state of separation or subdivision. This, it is not given to any physical science to do. But we shall gain knowledge of the most useful character if we can succeed in demonstrating further that our medicinal substances in their dissociated form and in quantities extremely minute are capable of manifesting clearly showable and controllable effects. The clinical experiment alone can avail to prove by what substances and in what quantities the disturbed harmony of the organism is to be restored. But we must constantly aim to discover the missing links between the physical experiment and the clinical test.

In Gastein, this clinical test has been in progress for many centuries. It has resulted in attracting to the baths year after year the people who are able to command the best medical advice. Cases of debility in various forms, anæmia, neurasthenic conditions of many kinds, the weakness arising from overwork and from advancing age, seem to be most favorably affected; likewise obstinate cutaneous affections. I will not enumerate all the hundreds of ailments for which the waters are recommended, nor attempt to expound the theoretical explanations of the modus operandi of the waters, but certain effects which I had the opportunity of observing, I beg to mention in conclusion. Among these observations were several pronounced cases of brain fag and nervous fatigue. It was truly surprising to see the rapid rise of the vigor and joy in living, the improved appetite and sound sleep, after a series of six or eight baths, in a number of weary and despondent people. In the same way I had occasion to notice the prompt disappearance of obstinate acne rosacea which had resisted much treatment for many months, the marked improvement in a case of acne pustulosa, and another of eczema, both of many years' standing. Strange to say, the effect of the water, in those who use it to excess, is very often to produce, among other disturbances, persistent skin affections, pustulous, vesicular and squamous in character, and, likewise, forms of debility closely resembling that of hypochondria, neurasthenia and melancholia. A striking instance of such neurotic derangement was that of an elderly man who had been much benefited by the baths but, against the doctor's advice, insisted on pushing their use beyond the prescribed course. He was soon thrown into a state of extreme hypochondriacal despondency, nervous irritability with disturbed sleep and deranged digestion, which represented most faithfully the affections for which Gastein is most frequently prescribed. In reading certain articles by Dr. Trolle, who had made provings of the Gastein and had much experience in their use, I was struck with the fact that he himself had repeatedly observed similar unhappy results from the incautious use of the water, showing this to be far from indifferent in its effects as by the sceptical it is supposed to be. And there are still those who refuse to believe that minute quantities of medicinal substances can produce either pathogenic or curative effects.

As yet the indications for the use of Gastein remain most vague, and despite the glamour of scientific phrases with which its physiologic, pathogenic and therapeutic action is set forth, its use is wholly empirical. My aim in calling attention to its chemical and physical properties, in connection with its healing virtues, is not only to stimulate reflection among ourselves on the true relation of these things, but also to arouse in those who are in a position to conduct accurate experiments along these lines an interest in such investigations as will aid us in solving some of those therapeutic problems before which the profession still stands in too much darkness. It appears to me, therefore, that, in the new provings and re-provings to which we are all bidden to lend our aid, the physical and chemical, as well as the pathogenic, properties of drugs should receive attention. And, what is more, it is growing daily more evident that the investigation of certain pure spring waters known to possess distinct therapeutic virtues, cannot fail to throw much needed light on the action of medicinal substances in a state of extreme subdivision. If nothing more, it will be no small gain if in this way much blind prejudice and unreasoning scepticism can be overcome.

If, for example, we can see that the fraction of a ten-thousandth part of arsenic, or lithia, or manganese, etc., in solution may be demonstrated to cause a distinct deflection of the electric needle, or the ten-millionth part of another substance so change the electrolytic behavior of distilled water as to produce a visible effect, we shall not err in concluding that the curative power of many medicinal substances resides in their dissociated molecules. By many experiments with different substances under varying conditions of dilution and admixture, we shall also be able to define and classify these curative powers and thereby raise them out of the vague uncertain field of empirical use to the level of something nearer to scientific certainty, which the physiological and clinical experiment alone will scarcely accomplish.

AN INVOLUNTARY PROVING OF ANTIMONY.

BY FREDERICK B. PERCY, M.D., BROOKLINE, MASS.

It has always been a mooted question whether a voluntary or an involuntary proving of a drug was productive of more valuable information. Whichever horn of the dilemma you accept, you must admit that the following proving is both interesting and instructive. It certainly subscribes to four fundamental rules for a proving, namely, that the drug shall be pure and in varying conditions. Second, that the prover shall be in ordinarily good health. Third, that there shall be as few changes as possible in the mode of life. Fourth, that there shall be intelligent observation and interpretation of the effects.

One unique feature of the proving lies in the fact that all the pathogenetic effects were elicited through skin absorption of the drug. It may not be amiss to recite to you the reasons for this proving coming into my possession.

Some years ago a well-known chemist came under my care for temporary indisposition. His recovery was rapid and uneventful, but a pleasant friendship resulted. Many years after we met again, and then it was that he told me of a recent illness from which he was only then recovering. At my instigation he committed the facts to writing, and I submit to you his letter:

"DEAR DR. PERCY,

The following is an account of the case of Antimony poisoning as nearly as a layman can describe it. I was engaged in the manufacture of the double lactate of antimony and soda for dyers' use. This is made by dissolving powdered regulus or metallic antimony in a mixture of lactic and nitric acids. The nitric acid is simply to convert the metal into an oxide soluble in lactic acid. When the nitric acid is used up, one-half the remaining lactic acid is neutralized with soda.

The double lactate of antimony and soda is a hygroscopic non-crystalizable salt, which is absorbed through the skin with great readiness. Shortly after beginning the manufacture of this. I noticed a decided lowering of the general health and great sensitiveness to cold. I was only comfortable in a room at 80° to 85°, and was obliged to give up cold baths, to which I was regularly accustomed up to this time. There was also great digestive disturbance, much gas in the intestines, watery and mucous discharges from the intestines but no pain, a nasty coated tongue, torpid liver, and yellow skin. The whites of the eyes showed yellow as well. The heart, which had always been quick but strong, became most erratic, jumping from fifty-six to a hundred and fifty beats per minute, and from weak to strong and vice versa. The mental disturbance was more pronounced than the physical. An extreme listlessness was accompanied with the most extreme melancholia. The thing which finally led me to the cause of the trouble was the breaking out of watery pustules on the wrists and arms, principally an intense itching of the inflamed parts. The pustules resembled ivy poisoning.

A physician prescribed soda and a tonic without relief. Then iodide of potassium solution, one to one, five drops three times a day, were administered with immediate relief. The iodine showed in the urine and saliva. For the liver ergot, and for the heart strychnine and nitro-glycerine were given. After five months I am nearly in a normal condition, but have never been able to resume the cold baths and am more or less dependent on the nitro-glycerine. Hoping this complete, I am,

Sincerely yours,

...."

That we may better appreciate the remarkable confirmation of the generally accepted symptoms of Antimonium crudum, I beg that you will follow me as I give you these symptoms in parallel columns:

PROVING.	HOMŒOPATHIC INDICATIONS.
Decided lowering of the general health.	Depressed vitality of the mucous membranes with mal-assimilation.

Great sensitiveness to cold in the prover. Only comfortable in a room 80° to 85°.	Cold baths aggravate or cause trouble. Child always worse from cold bath.
Obliged to give up cold baths to which I was regularly accustomed.	Disagreeable feeling of internal chilliness, so he cannot get warm.
Nasty, coated tongue.	Tongue thickly coated, white, very white, white as milk.
Great digestive disturbances. Much gas in intestines.	Chronic loss of appetite, eructations, tasting of ingesta.
Watery and mucous discharges from the intestines.	Stools partly solid and partly fluid, alternate constipation and diarrhœa, constant discharge of yellowish slime from anus.
Heart, which had always been quick and strong, became most erratic, jumping from 56 to 150 per minute, from quick to strong and vice versa.	Violent palpitation of the heart. Pulse, sometimes a few quick beats. then three or four slow ones.
Mental symptoms: Most extreme melancholia.	Great sadness and woeful moods. Child cannot bear to be touched or looked at.
Watery pustules on the wrists and arms; pustules resembling ivy poisoning. Intense itching of the inflamed parts.	Pimples, pustules, furuncular elevations, with pricking itching of the skin.

Could stronger proof of the law of similars be offered than these parallel columns give? "Few drugs have made as much noise in the medical world as Antimony. It was known in the remotest antiquity. Hippocrates, Galenus, Plinius and Dioscorides mention it. From the arcana of Paracelsus it was afterwards transferred into common use as an almost universal panacea, and during the fifteenth and sixteenth centuries became the object of such violent disputes among doctors that Parliament was obliged to interfere and to interdict the use of this drug. This interdiction remained in force from the year 1566 until the 16th of April, 1666, when it was revoked at the instance of the medical faculty of Paris, one hundred and two members of which at last united to give their assent to the use of antimonial preparations."

The modern school of medicine has abandoned the use of crude antimony almost entirely, but our study of the drug has always led us to place almost implicit confidence in its usefulness for chronic catarrhal conditions which are attended with a depressed vitality of the mucous membranes and an unhealthy condition of the skin. Its strongest analogies are bryonia and pulsatilla, but it has a sphere of usefulness of its own which, though not wide reaching, is none the less important. We can therefore, I think, claim for this drug that any part it may have played in medicine in the past centuries or will play in time to come can be interpreted only in accordance with the law of medicine to which we subscribe.

DISCUSSION.

Dr. Frederick P. Batchelder. I have very little to add regarding this very clear and scientific narrative which we have all listened to with so much pleasure, but there are two or three things which have come to my mind. I for one have had some doubt about some drugs in our materia medica. One of the best ways of acquiring faith in anything is by careful investigation of the thing in question for one's self. This involuntary prover has now probably no doubt in his own mind as to the toxic effect of Antimonium Crudum. I am more and more persuaded that some of my doubts occur because I know so little about the symptom-producing or disease-producing power of drugs, and moreover I lack something that many of my older colleagues had in their student days,— that helpful influence exerted by their superior, the one they used to turn to in time of doubt,— their preceptor. Some of the most lasting impressions I have of drugs have come to me here and there by some older physician giving me his experience at a very critical time, and I for one will leave here today having stronger confidence in Antimonium Crudum. I certainly thank Dr. Percy very much for giving us this very short, telling and faith-producing narrative.

A BRIEF PROVING OF PILOCARPINE.

BY G. FORREST MARTIN, M.D., LOWELL, MASS.

I have nothing new to offer! Simply a few symptoms to show as verifications of those already presented by others. This drug is almost always used for its physiological effects. I believe we could more often find a use for it in the potentized form. According to the law of *similars*, I can think of no one drug which more closely covers the picture of ptyalism incident to pregnancy.

My patient, a young man of 35, received $\frac{1}{12}$ gr. pilocarpine muriate April 30th and May 1st, $\frac{1}{10}$ gr. May 3d and 4th, $\frac{1}{8}$ gr. May 6th and 7th, and $\frac{1}{6}$ gr. May 9th and 10th. In each case it was given hypodermatically, in about 10-15 m. of water, and in the arm, and the dose was given at night. The treatment was part of that applied by an eminent Boston aurist, to relieve some adhesive conditions in the ear and thus restore impaired hearing. The treatment was a failure. The proving, however, is just as good.

The $\frac{1}{12}$ gr. doses produced little effect. In about 15 minutes a slight burning in the mouth appeared, soon followed by salivation. The latter lasted about one-half hour. $\frac{1}{10}$ gr. produced the same symptoms slightly increased, and a little later a gentle *perspiration*. The latter continued only one-half hour. No after effects. $\frac{1}{8}$ gr. produced above symptoms, and in addition, a slight palpitation and sense of discomfort about the heart. The salivation and perspiration were both more profuse and long continued. $\frac{1}{6}$ gr. increased all symptoms noted, and in addition thereto produced the following: Severe tinnitus aurium, slight nausea, blurring of the vision enough to make reading difficult, diminution of temperature of 1°, and, on the following day, marked depression and feeling of weakness in the legs. The pulse, increased at first, was on the following morning slowed to 57.

DISCUSSION.

Dr. Howard P. Bellows. I have certainly had experience with Pilocarpine in relation to the ear, but no experience which would develop any new symptoms. I have never pushed it to such an extent. I have obtained no noticeable symptoms aside from the ptyalism and the perspiration when using the drug in the dosemetric tablets. I have never found it necessary to use it hypodermically. Using it in the dosemetric tablets it produces ptyalism in a child so that a towel is sometimes necessary under the chin to catch the saliva. The perspiration is gentle for half an hour or so. In those cases where there is recent effusion, when the labyrinth is effected, and there is great danger of permanent deafness, we are justified in using almost anything to prevent it, even this drug.

Dr. Alvin M. Cushing. Have you ever noticed any after effect on the patient?

Dr. Bellows. No, have noticed just a slight sensitiveness of the skin, which has passed away in a few hours.

Dr. J. Miller Hinson. There is nothing special in our line about Pilocarpine. It is used by some physicians to a large extent in temporary conditions for relaxing the accommodation of the eye, so that the full error may be obtained. I had a case of albuminuria. I had used Pilocarpine, and the depression of the heart was so great that I had to call in another physician.

Dr. Ellen Hutchinson Gay. Before I studied medicine I had the first case of poisoning that ever came under my observation. A woman was taken sick purging, vomiting, and the pulse was almost imperceptible. The whole family were perfectly helpless, and no physician was near. I gave her strong coffee, and in a few hours she was better, and the next day was just as well as she had ever been.

REPORT OF THE COMMITTEE ON SURGERY.

WINFIELD SMITH, M.D., *Chairman.*

I. A Complicated Fracture, N. W. EMERSON, M.D.
Discussion opened by J K. Warren, M.D.

II. A Secondary Celiotomy for Adhesion of the Bowel,
W. F. WESSELHOEFT, M.D.
Discussion opened by G. Forrest Martin, M.D.

III. The Incision in Appendicectomy, JAMES B. BELL, M.D.
Discussion opened by J. Emmons Briggs, M.D.

IV. Asepsis in Vaccination, A. HOWARD POWERS, M.D.

V. Report of the Surgical Service of the Massachusetts Homœopathic Hospital for July, August, September, 1901,
WINFIELD SMITH, M.D.

A COMPLICATED FRACTURE.

BY NATHANIEL W. EMERSON, M. D., BOSTON, MASS.

In the latter part of November, 1900, I was asked to see Mr. G. H. W., who gave the following history: On October 1, 1900, he was knocked with great violence from a moving freight car by coming in contact with a bridge. It was not known what was the nature of his flight to the ground. Later in the day competent professional attendance was afforded him, and examination showed a compound fracture of the femur in the middle third, with the end of the upper fragment pushed through on the outer aspect of the thigh. There was no serious laceration of the soft tissues, and no unusual difficulty in reducing the fracture. The leg was put up with extension, and a long side splint reaching to the axilla, a long posterior splint and a long inside splint, and a few days later the case was seen by an expert and the method of treatment approved. The wound healed in about three weeks, in five weeks the splints were taken off for inspection and the contour of the leg was correct. The splints were put back as before, except that the external lateral splint was shortened and extension discontinued. When next the splints were removed, about a week later, some deformity was apparent, and I was asked to see the case. An examination showed an incomplete union of the bony parts, deformity of the thigh, and much shortening of the whole limb, although accurate measurements could not be made at the time. I advised his removal to the Hospital and the use of the X ray, and this was accomplished on the same day. Skiagraphs of the seat of fracture showed an overlapping of the ends of the bone, and I therefore advised cutting down upon them and wiring. Measurements also showed a shortening of between two and three inches. Consequently, on November 21, under ether, a curved incision, five to six inches long, was made over the anterior and outer aspect of the thigh down to the muscles. These were then separated until the end of the upper fragment was exposed, and further dissection showed that the ends of the bone overlapped from two and a-half to three inches, the upper end lying on the outside. They were so bound together and to the soft parts that reduction was impossible, and yet at the same time there was no stability to the union, all appearances of a provisional callous being lacking. The lower fragment could be moved in any direction. It was therefore necessary to break up all adhesions between the soft parts and the bone. After the bones were thus freed, forcible extension reduced the fracture, but it was found impossible to retain it in position. The moment extension was discontinued the ends of the bone instantly returned to the faulty position. A more careful inspection discovered a large sequestrum from the posterior surface of the bone, irregularly triangular in shape, about one and five-eighths inches in the longest diameter, and something over one inch in the shorter diameter. This fragment came from the posterior portion of the shaft of the bone, was traversed by the linea aspera, and embraced the whole thickness of the bone. It was so shaped that it prevented the retention of the ends of the bone in coaptation, and there were no signs that any special effort had been made by nature to include this fragment in the process of repair and it was therefore removed. This left an irregularly shaped cone at the end of each fragment, and when brought into apposition the areas in contact were so small that the irregularities of the upper fragment were sawed off and, by traction upon the foot, elongation sufficient to coaptate was secured. The bones were then wired into position with two silver wires, one on the anterior and the other on the external lateral surface of the bone. The soft parts were united by continuous catgut sutures, two rows of which were buried, and three silk-worm gut sutures for stay sutures. The wound was covered with a collodion dressing, a long strap of adhesive plaster applied upon either side of the leg, and the whole leg from the ankle to the hip was bandaged with roller bandages. After being put to bed, the leg was placed upon an inclined plane, the outer end of which was carried outward and upward, and extension was continued in this direction, ten pounds being put on at first with the intention of increasing it to fifteen pounds later. Large sandbags were placed at the side of the pelvis, and the foot of the bed elevated about eight inches.

On November 22 the leg was so painful that the weights were reduced to ten lbs. and afterwards increased to twelve lbs.

November 27. The leg has been very comfortable up to the present time, paining him almost none at all. It was dressed to-day for the first time, by opening the bandages down to the limb. The wound was without irritation and healed by first intention, and the silk-worm stitches were removed. While there has been a rising temperature with morning and evening fluctuations, showing pus, examination of the wound reveals nothing.

December 4. Temperature fluctuations have been more extreme and gradually growing higher. The site of the old scar made at the time of the original injury having become red and inflamed, under aseptic precautions and the use of ethyl chloride, an incision was made over the old scar and a considerable amount of inodorous pus was evacuated. A curette was passed down to the bone and came in contact with denuded bone, and there was probably not the slightest attempt at bony union; on the contrary there was apparent necrosis of the ends of the fragments, thus necessitating in all probability further operation. A drainage tube was inserted. This caused the temperature to fall so rapidly that by December 6 it was again normal. The appearance of the leg, however, was not satisfactory, it was swollen and œdematous and pasty looking, and a bacteriological examination of the pus showed that the affection was due to the streptococcus. I felt that the case was more than usually serious, and although the temperature continued satisfactory, the general appearance of the patient was far from being so, and it seemed to me that, if the case continued as it was now going, the best that could be hoped for would be to save the patient's life, but with the loss of the leg close to the hip. After consultation with the family and physician, and placing the whole matter before them, I advised another operation. My idea was to expose the ends of the bone and go back far enough upon the shaft to remove these ends through the whole diameter of the bone, then to butt these broad-ended fragments directly together and wire them there, recognizing that if union took place there would be two and a-half inches or more of shortening. If union failed, it seemed then as if the leg would have to come off.

On December 11, I again opened the leg to the fracture, making a semilunar incision just inside the former one. Considerable callous was found about both fractured ends of bone, which was a symptom of encouragement, inasmuch as the previous operation had shown there was not the slightest development of callous. It seemed to indicate that the ability to form a callous was not lacking, only the proper conditions for the same. The ends of the bone were found in apposition and the effort at repair had been so successful that at first sight it seemed remarkable that there was failure. Separating and exposing the ends of the bones, an irregular piece of bone from one-half to two-thirds of an inch long, and of considerable width, was sawed off from the upper fragment at right angles to the long axis of the shaft, and in doing this I unwittingly got at what I believe to be the root of the whole trouble, as will be explained shortly. Then from the lower fragment a piece from one and a quarter to one and a half inches long was removed. This was necessary because periosteum was lacking for this distance and it was thought wiser to go sufficiently far to get a section through a thoroughly nourished part of the shaft. The ends of the bone were then accurately fitted together and secured.

Examination of the fragments showed that the upper one was pyramidal, somewhat honeycombed in appearance, and easily broken up into additional pieces.

In the centre of the medullary substance of this piece was found a bit of the external part of the shaft, pyramidal in shape and completely imbedded. The periosteal surface was flush with the sawn surface of the fragment. It was entirely shut in, and must have found its present location as the result of extreme and sudden violence. Also, in this same fragment was a small piece of steel or iron, completely imbedded, bright and glistening, and surrounded by softened and discolored tissue with sinuses leading to it, and, in my opinion, this was the cause of the difficulty in obtaining a proper union after the last operation. Manipulation at that time allowed access of air, which in turn favored the development of germs which up to that time had been encapsuled.

Inflammation following this last operation, progress was not satisfactory, and on December 18, all dressings were removed and the wound was found to be septic. The leg was œdematous and enormously swollen. The wound was opened throughout and down to the bone, there being a profuse discharge of creamy pus. This was all washed out with sterile water and afterwards with peroxide of hydrogen, and the wound left wide open. Microscopical examination showed the inflammation was caused by the streptococcus. It was therefore dressed daily, improved quickly, and the bony union was finally satisfactory except the shortening. He was discharged March 14, entirely well, but with about two and a half inches shortening of the affected side.

My own explanation of all this is that in the first instance, while reduction was complete, it was well nigh impossible to maintain it with so large a loose fragment from the linea aspera. This, together with the fractured bone ends, caused a series of inclined planes, besides preventing a blending of the parts by a provisional callous.

The fracture was originally caused by a direct impact of a metal such as a bolt or rod, which penetrated the soft parts to the bone in the course of his flight to the ground. This blow was delivered with such force that it broke out the large fragment from the linea aspera, and at the same time left a chip from itself behind. This was so forcibly driven into the bone that it was shut in, and when my first operation opened to it and exposed it, somewhat indirectly to be sure, but enough to light up infection, did it show itself, and this interfered with the union at that time and probably was the entire cause of failure. The second operation, removing more bone, exposed the deeper parts and also showed the beginning necrosis of the end of the bone, the latter being secondary to the former operation. Then followed the streptococcus infection.

Had union occurred under the first dressing, the probabilities are that there would have been trouble at some future time, since it is hardly probable that so much comminuted bone and foreign matter could have been successfully encapsuled and sterilized. Amputation was seriously considered at one time, and this case is recorded merely as encouragement for somebody else under like circumstances.

DISCUSSION.

Dr. J. K. Warren. It is always a pleasure to discuss a good paper, and this fracture is not only unusual, but is particularly interesting because it involves certain features of fractures which are all important. I am very sorry the doctor is not here as I should like to ask him some questions which are not brought out in the paper.

As I understand it there was discovered a non-union of the parts. Now I think the mistake here was in allowing the extension to remain so long. As soon as muscular contraction ceases extension should cease, and if continued longer than that time not only causes pain, but positive injury. In a simple breach in the continuity of a bone all the strain comes on the bone and capsular ligament, but when you have a fracture you have a very different condition, for here you have the whole extension coming upon a very few inches in the immediate neighborhood of the fracture. Now then, just as soon as the muscles relax, the extension remaining the same, there is a dragging upon the nerves which causes pain, and dragging upon the blood vessels which is a far more serious matter. When we elongate the blood vessels we diminish their calibre and cut off so much nourishment to the part.

The second mistake, it seems to me, was in not examining it sooner. Now the important time in every case of fracture is the first three weeks. At the end of that time you can determine pretty nearly what kind of a union you are going to have. All of this occurred before it came under the care of Dr. Emerson, and when it came to him he very wisely united the ends of the bone by sutures, but why he should have put on ten or fifteen pounds of extension I cannot understand, because when the muscles relaxed all that extension simply drew on the blood vessels and nerves. With all due respect to Dr. Emerson's skill and ability as a surgeon I must differ from him in regard to extension and weights. I consider it unscientific and entirely unnecessary. As soon as the muscles relax the extension keeps up a continuous strain on the blood vessels and nerves, and interferes with the nourishment of the parts.

In summing up the evidence in this case I should also differ from the author in regard to the cause of failure of union in the first instance. I do not believe it was due so much to the fracture as it was to the treatment of the case during the first three weeks. Dr. Emerson tells us that at the first examination there was very little signs of repair and of callous having formed. Why should there be? The blood supply was so shut off from the parts that it was all that it could do to keep the limb from dying. The second time he operated he found that there had been quite an attempt at union. Now why should there have been such an improvement at the second time when the patient was more reduced than at first. The reason was that the extension came upon the bones and not upon the blood vessels, and therefore the parts were nourished and the blood supply was not cut off.

I should also differ from him in regard to his opinion in relation to the cause of failure in his first operation which he attributes to infection and consequent suppuration. It has been my experience where it is possible to bring only small points together that results are very unsatisfactory by wiring. Of course we understand why the doctor did this, viz: to save as much of the bone as possible, but I believe if he had removed sufficient amount of bone, making better contact and thereby closing the medullary canal, he would have had better results.

Just how important this spicule of bone was in this case it is impossible to say, but if it had remained there six weeks without any disturbance, and if the limb had been properly nourished in the first place, it would have been all right and possibly undiscovered.

Dr. James B. Bell. I would like to ask Dr. Warren what dressing he would recommend?

Dr. Warren. The only perfect dressing is to put the bones in as perfect apposition as possible, so there will be perfect extension, sufficient to prevent tension.

Dr. William F. Wesselhoeft. It so happened that I was asked to see that case two or three days after the accident had occurred. The gentleman who had taken care of it had put it up as described by Dr. Emerson. The thing to do, it seemed to me, was to let it alone, as there were no signs of suppuration at that time, and union was at that time a secondary consideration. I found the limb in perfect position, that is, the length was the same as the other limb, and it seems to me that the apparatus they were using was perfectly good. I suggested no change during the next twenty days if suppuration did not occur. If suppuration did occur I advised them to call in a surgeon. I have always understood that extension was a very desirable thing in these fractures. As I have seen it, it is an admirable thing. I have not noticed bad results following extension as a usual thing. Is it not customary, Dr. Warren, for fractures of the thigh to be put up in extension?

Dr. Warren. I think it is.

Dr. Bell. This subject as suggested by Dr. Warren is new to me. It has always seemed to me that extension was a desirable thing. Dr. Warren's suggestions seem to me very valuable; at the same time, results of extension have been very good, and in my experience the blood vessels have not been interfered with.

Dr. Carl Crisand. I have always used extension with very good results.

Dr. A, Howard Powers. There is just one point in regard to fixation which has interested me very much. I do not know that I am ready to accept Dr. Warren's explanation of the failure. I usually do apply extension at first of twelve to fourteen pounds for two or three days, after which, I drop a few pounds, which has seemed to me to make the patient much more comfortable, and to produce better results. It is a custom I have always followed.

Dr. Horace Packard. The matter of management of these fractures is a very important one. I have never seen a more useful way than by extension of the leg. Fixation is to be obtained by the lateral splints. Then the extension of the leg so that the movements of the patient's body will not be interfered with too much, and also so that it will not move the leg. The extension by the lateral splint, where extension can be accomplished, has given me such results that I wish for nothing better. I wish that the Hodgen's splint might become more familiar to physicians.

Dr. Winfield Smith. This is a very interesting paper to me because I have had several cases where wire was used to keep the bones in apposition. One case comes to my mind in particular. Some years ago I had a case of fracture of the tibia and fibula. Wiring came up as a possible means to keep the bones in apposition, and this was done. We put the bones in perfect position and wiring was resorted to with entire satisfaction. During this last service there has been a case where wiring of the bones was resorted to with good prospects of success. Whichever you use, fixation or extension, I believe the time will come when wiring will be used more than we have ever used it.

INTESTINAL ADHESIONS.

BY WM. F. WESSELHOEFT, M.D., BOSTON, MASS.

Believing that every pathological condition, common or uncommon, in the realm of abdominal surgery is well worthy of discussion, I have chosen as a subject for consideration a case in which a second laparotomy was performed to relieve symptoms caused by an adhesion of the bowel.

G. L. T., age 35, a powerfully built man, a pattern maker in an iron working establishment, was operated upon for appendicitis, three years before the time he came under my care. Twelve years before this first operation he had had an attack of appendicitis, and again a very severe one one year before. After recovering from this last attack he had constantly had more or less trouble in the region of the appendix, with pain and tenderness. He was then operated upon by Dr. Winn. The appendix was found bound down considerably by adhesions and doubled upon itself. It was removed and the abdominal wound closed tight without drainage. The wound healed by first intention.

After this he went along well for several months at work, when he had an attack of "bladder and kidney trouble," which laid him off from work for a time. He recovered from this and kept at his work until about one year before he came to me, when the examination of the urine showed it to be normal. During this past year he had had several attacks of sharp pain in the abdomen, so severe as to make him lay off from work for a week or more at a time, and these attacks were becoming more frequent. Nothing that he knew could be ascribed as a cause, except that sometimes they seem to have followed rather hearty eating. He was of temperate habits in every way. At times he would be entirely free from pain, and again he would have discomfort, or again such great pain that he would have to quit work. These attacks were without fever. The pain was low down in the right abdomen, extending through to the back. Sitting or stooping increased it. He was most comfortable lying down, when it would become bearable or wear off. He had no nausea or vomiting. At times there was apparently considerable gas in the abdomen with slight distension. Sometimes the sensation of passing along of the gas gave relief, but this was not very marked. The bowels were generally regular, though at the times he had to lay off from work they would not move as frequently as usual. There had been no diarrhœa. There was slight tenderness on deep pressure in the right lower abdomen, but nothing very marked or sharply localized.

He had had intelligent care and prescribing during the course of this disturbance, but the attacks were becoming more frequent, and, as he had a family to support, he was becoming more and more disturbed over having to lay off so much from work, in addition to the suffering entailed. After going over the case and carefully examining him, I told him frankly that it was impossible to tell certainly what the condition was, without making an abdominal opening and having a look in. That I believed the trouble due, possibly, to adhesions, with temporary and partial obstruction, but I was loath to subject him to an abdominal operation without greater certainty. We compromised by his going off with a carefully planned diet list, and the understanding that a definite decision should be reached after a thorough trial of that. He came back in a short time with matters as bad as ever. With his full understanding that nothing satisfactory might be found, I operated upon him. The incision followed the old scar. The cæcum was found adherent to the abdominal wall but not pulled out of place, so it was not disturbed. A loop of small intestine was adherent to its inner side. On loosening this up the cause of the trouble was plain. Below and glued to the back of the brim of the pelvis, was the end of the ileum just before it entered the cæcum. Although this was not more than one and one-half or two inches long, it was broadly adherent, and the free intestine just before it entered it at a slight angle. This piece of intestine was with great care — as it required much force — slowly worked free, and its normal mobility restored. Some normal salt solution was poured into the abdominal cavity in the hope that it might help to prevent the bowel adhering again, and the wound closed in layers. An uneventful recovery ensued, and he has continued entirely well with no return of the pain. Nearly two years have now passed.

Intestinal adhesions are common enough as accompaniments of almost every inflammatory condition of the abdominal contents. It is usually understood that, after the focus of inflammation, as, for instance, the appendix or an inflamed tube is removed, these adhesions undergo absorption to a great extent. I believe that the plastic lymph thrown out during an inflammatory attack is largely absorbed when the inflammation ceases, either by a subsidence or by removal of the inflamed organ, but I do not believe that we have any good reason to expect that removal of offending organs is going to have any marked influence on loosening up adhesions which are organized and have become firm by fully developed connective tissue.

There are a number of varieties of adhesions which may give rise to intestinal obstruction. One is by a band, which is due to the adhesion gradually stretching out. This may be a fine cord or a moderately thick one. Around this a loop of intestine may be caught and incarcerated. A mass of intestine may be adherent in such a way that peristalsis is greatly interfered with, or the bowel held at such angles that the lumen is greatly constricted, or the passage of its contents impeded. Sometimes an adhesion at some point on the side of the intestine so binds it that when the bowel above it is distended, there forms a side turn and the bowel is kinked at that point. Another form is that as in the case reported. In this case the adhered bowel was so fixed that evidently when the bowel above was distended or moved at certain angles, the lumen was markedly constricted and this caused the distress. There was, however, never complete obstruction. It was only partial, and rarely was there visible distension of the abdomen.

The symptoms of complete intestinal obstruction are well marked and there is usually little doubt as to the fact. The causes are well known, yet it is not always by any means possible to know the actual condition giving rise to the obstruction before an abdominal opening is made. The call to operate, however, is imperative, and the operator is rarely perplexed as to the obvious course to pursue. There is one condition, sometimes closely following operations, which markedly resembles ileus, and which is due to the paresis of the intestine. Here it is sometimes very difficult to decide whether to open the abdomen or not. This is an accompaniment, sometimes, of peritonitis. It is sometimes difficult to decide whether or not the condition is a mechanical obstruction. The vomiting is persistent. Owing to the emptying upward the abdomen is not apt to be greatly distended, but sometimes it is so. There is more pain than usually follows laparotomy. There is no passage of gas downward. The temperature shows nothing, but the pulse is rapid and on the increase. The patient looks badly. I have seen several such cases opened, and in only one that I can remember was the condition found to be a mechanical one due to adhesion of the bowel. Fortunately here the indications are to open and flood out with hot normal salt solution, and at the same time inspect for mechanical obstructions present. If it is paresis this seems the best measure in addition to enemata. If it is obstructions from post operative adhesions the operation is imperative.

Abdominal adhesions are by no means always undesirable. The walling off of a septic focus by adhesion of the bowels to each other and to contiguous organs is nature's well recognized way of guarding the general peritoneal cavity, and sometimes protecting the patient from certain death. So fine may this wall of protecting adhesion be, that I have seen a case of abdominal sinus, where an abscess ruptured through the abdominal wall, instead of eroding its way and breaking into the general peritoneal cavity.

Among the recognized causes of chronic disturbance of the appendix are peri-appendicular adhesions, causing compressions of its lumen directly, or by bending it upon itself. This condition is certainly a very common one in women who have suffered or are suffering from salpingitis. In former years I have a number of times seen a second laparotomy performed for a diseased appendix in women who had previously had diseased tubes removed. It is nowadays the rule always to inspect the appendix in operating in its neighborhood, especially when operating for imflammatory conditions. The appendix should always be removed if it is involved in adhesions, for this adds almost nothing to the severity of the operation, and may be an important factor in the patient's restoration to health. It is largely this consideration which leads me to prefer the abdominal route to the vaginal, all other things being equal.

While radical operating with removal of diseased structures gives brilliant and satisfactory results generally in abdominal surgery, it is not uncommon for patients to suffer vague disturbances, more or less painful, even after thorough work has been done. I believe from what I have seen, and cases I have known about well, that many of these disturbances are due to the persistence of adhesions interfering with the normal freedom of motion and persistalsis of the intestines. Should these symptoms, which vary all the way from slight, colicky pains at intervals to severe colics, and evidences of obstruction, persist, there is no other way than a mechanical way of dealing with them. Each case must be judged separately, and operation undertaken only because the discomfort or interference with work, balance or overbalance the slight danger of an abdominal operation. We have no right, however, to be blind to the fact that however slight, there is still a fraction of percentage of danger. Thus far the case cited above is the only one on which I have had an opportunity to verify a diagnosis of intestinal adhesions, giving rise to severe symptoms without symptoms of obstruction, by an operation; but I know several individuals who have been successfully operated upon abdominally, but who, I believe, will never be well until an operation is undertaken for relief of these adhesions. The method is simple, and the requirements obvious, on inspection or by touch, after the abdominal opening is made. The bands must be cut or torn, and the intestine freed where the adhesions interfere mechanically with passage of the intestinal contents.

If attention is paid more carefully to this matter in operating, particularly in inflammatory conditions in the abdominal cavity, and especially in those cases involving the tubes or appendix, I have no doubt that the permanent results of operations in such cases, will be, in a certain percentage of cases, more satisfactory and gratifying alike to the surgeon and the patient.

DISCUSSION.

Dr. G. Forrest Martin. It has not been my privilege to see the paper, but I have been fortunate enough to hear most of it. The only information I have had that I was to discuss this paper comes from seeing my name on the program, and I cannot see any reason why Dr. Smith put it there unless it was to fill up and make it look better. However, I will have to express my pleasure in listening to the paper. I have little to add, except perhaps something in regard to the free use of saline solution. In abdominal work I think it is safe to say that many times we produce a sufficient degree of irritation of the peritoneal covering of the intestines by handling, etc., so that there is apt to follow a more or less mild inflammation, often of sufficient degree to produce adhesion. Aside from that there is usually some displacement from any abdominal operation. I believe the custom of flushing out the abdominal cavity with a sufficient amount of salt solution to flood the intestines, so to speak, does in a great measure assist in replacing the bowels to gravitate back into their normal position. I did not notice in the doctor's paper whether any attempt was made to cover up the raw surfaces, or whether that was covered by any secondary work.

Dr. Wm. F. Wesselhoeft. It was left uncovered.

Dr. James B. Bell. This paper has been very interesting to me. In 1893 there were some interesting observations made by (Wauchen) on rabbits in regard to replacing of the bowels. The conclusion of his whole series of observations was that the intestine should be exposed as little as possible to the air, and if exposed at all, should be in towels soaked in warm saline solution. The incision should be as short as possible, there should be careful avoidance of trauma, as little handling of the bowels as possible, but especially they should be kept wet with the hot saline solution. That heat with moisture was the great thing. On exposing the intestines to dry heat we hear that adhesions usually happened, but with moist heat adhesions seldom took place. Then avoidance of shock, keeping bowels good, and leaving abdomen full of saline solution,— all these things will add much to the comfort and safety of the patient. I think we have been rather slow to adopt this use of the saline solution.

Dr. Carl Crisand. As this is a Homœopathic Society I would like to ask Dr. Wesselhoeft a question in regard to the administration of remedies, where there are pains from adhesions, either post-operative or previous to the condition,— as to whether he has used them or not. A few years ago Dr. Hastings read a paper here in which she prescribed Graphites as valuable in relieving these pains, and said that such pains were dispersed by its use. Taking that as a cue I prescribed Graphites in the 30th in a case where the pains following an operation were very severe, incapacitating the patient for her work. We had tried all sorts of applications. I thought it would do no harm to try Graphites, and all I have to say is that the pain disappeared, and the patient was much better, after all other means had been tried six months after the operation. I would like to ask Dr. Wesselhoeft if he has had any experience with remedies in these cases.

Dr. Wesselhoeft. To tell the truth I depend very little upon the remedy in a condition of this kind.

Dr. Alvin M. Cushing. I can cite a case similar to Dr. Crisand's. Some ten years ago I was called to see a lady who had undergone an operation for removal of cancer from the breast. She was suffering severe pain. I gave her the 200th attenuation of Graphites. She was relieved and has been perfectly well for ten years.

THE INCISION IN APPENDICECTOMY.

BY JAMES B. BELL, M. D., BOSTON, MASS.

Among all the questions relating to the operation for Appendicitis, the pros and cons of the operation, the contest between the medical and the surgical men, " shall we operate? " " when shall we operate? " and all the rest; the technique of the incision has been least discussed. There is up to the present time no general unanimity among surgeons as to the best incision, and there has been no thorough canvassing of the advantages and disadvantages of those recommended and practiced by the different surgeons and authors.

It would therefore seem best to give the subject somewhat careful attention and discussion.

Of course it is understood that the incision under discussion is to be chosen in uncomplicated and " interval " cases. When pus is present to any extent, and requiring drainage, the location of the incision is less a matter of choice. As proof of the want of unanimity among the recognized authorities, I will cite them:

Fowler recommends the " vertical " and the " oblique " incision.

Deaver the " simple " and the " McBurney."

McBurney in Warren and Gould's Surgery, recommends the " simplest " incision and the " McBurney."

Senn apparently knows nothing but the " McBurney," which he strongly advises.

Morris advocates his own incision, the " Morris."

Greig Smith describes something like the " McBurney."

Sajou speaks strongly in favor of the " McBurney," with some qualifications, and also mentions favorably the " Jalaguier " or " Kammerer " and the " Elliot."

Treves describes apparently the oblique, but dismisses the subject in three lines, thus confirming my statement as to the insufficient attention given to this subject, which is especially marked in an author of his prominence.

Kammerer recommends his own incision, which is also that of Jalaguier.

Fisher and *McDonald* describe the " vertical " and the " oblique."

Dennis; The article on Appendicitis by McBurney. He recommends something like the " vertical " in the linea similunaris and the oblique, as described by Fowler, giving but little preference to either. He also describes and recommends the "McBurney." This was in 1896.

Bryant; Operative Surgery, 1901, says, " The vertical and the oblique are the ones usually employed." He mentions also the " oblique intermuscular (' gridiron ') dissection," and the "Battle Kammerer Jalaguier."

A description of these various incisions will now perhaps throw more light upon the subject.

The " vertical " incision of Fowler is one parallel with the axis of the body at the outer edge of the right rectus muscle and is practically in the linea semilunaris. The " oblique " has its lower end at about the same point as that of the " vertical," but the upper end is much nearer the spinous process of the ileum, and it runs nearly parallel with the fibres of the external oblique muscle.

The " simple " incision of Deaver is about three inches long "and begins one inch above a line drawn between the anterior superior iliac spine and the umbilicus; the incision intersects this line at a distance varying from one-half to one inch to the umbilical side of the center." This is not very clear, but his plate shows an incision about midway between the " vertical " and " oblique " of Fowler.

The "simplest" incision described and commended by McBurney himself in his article in "Warren and Gould's International Surgery," is begun by making an incision in the same line through all the tissues of the abdominal wall.

"The incision should begin about one inch above a line drawn from the anterior spinous process of the ileum to the umbilicus, and should be so placed as to correspond with a line drawn parallel to and about one-half inch to the right of the rectus muscle."

"This incision is of course not a vertical one parallel with the median line. The incision will then be quite oblique and nearly in line with the course of the fibres of the external oblique aponeurosis. The external oblique aponeurosis should be exposed and the incision extended through it parallel to the course of its fibres and without cutting them transversely. When the edges of the incision in the external oblique aponeurosis are separated the tendinous terminations of the internal oblique will be exposed. The incision should now be continued through the internal oblique and transversalis muscles just external to the termination of their muscular fibres in tendon. At this point the abdominal wall is thin, comparatively few muscular fibres are severed and the edges of the wound are subsequently sutured in layer with great accuracy."

"This incision avoids the very undesirable opening of the sheath of the rectus muscle."

"At this stage of the operation the incision through the internal oblique and transversalis muscles should be little more than one inch in length, for it is often quite possible through an opening of no greater extent than this easily to extract and remove the appendix."

This "simplest" incision as described by McBurney is practically the short "oblique" and also much the same as the "Morris."

It may be well at this point to refresh our memories somewhat on the anatomy of the abdominal wall in this region.

The external oblique muscle comes from above and behind and spreads downward to the pubic bone and is here only an aponeurosis, as the muscular fibres stop below the spine of the ileum. This aponeurosis also passes in front of the rectus and forms part of its sheath.

The internal oblique comes next, starting from the spinous process and crest of the ileum and spreading upward and downward like a fan as it runs across to the median line. The true muscular fibres extend nearly to the edge of the rectus when it becomes tendinous, as it also runs across and forms a part of the sheath of the rectus. Next we come to the transversalis, which starting at the back, the ileum and the ribs run straight across to the median line. Its true muscular portion stops farther out than that of the internal oblique.

The semilunar line is the tendinous line of union of all these muscles with the outer border of the rectus.

The rectus needs no description, except to say that I have often found it from one-half to one inch wider than described or figured in the text books.

The "McBurney" incision is best described by Senn as follows:

"The abdomen is opened by McBurney's muscle-splitting method, which usually secures ample room for the removal of the inflamed organ. The first incision is made about four inches in length, two inches from Poupart's ligament, and parallel with the fibres of the external oblique muscle, and equidistant from McBurney's line. The external oblique muscle is next divided by penetrating the muscle with the point of the scalpel in the upper angle of the wound, and cutting in the direction of the fibres until the lower angle is reached. The incision is made with greater accuracy if the knife is followed by the tip of the left index-finger, thus spreading the wound as the incision is enlarged. The margins of the wound are now retracted sufficiently to expose the internal oblique to the requisite extent. With the knife and a blunt dissector an opening is made in the middle of the wound in the internal oblique muscle, in the direction of its fibres, when the wound is enlarged by inserting the tips of both forefingers, which are then used in dilating the wound to the desired extent. With blunt retractors the margins of the wound in the internal oblique are then retracted, and the remaining structures divided between two dissecting forceps."

The "Morris" incision is thus described by himself:

"A space one and a half inches in length is measured off on the patient's abdomen over the normal site of the appendix, and in a line which follows the trend of the external oblique aponeurosis. The distal end of the line ends at the right margin of the right rectus abdominis muscle. A scalpel pierces the skin at each extremity of the one and a half inch line in order to mark it well. A single hooked tenaculum is inserted into each scalpel puncture, and by means of two tenacula the one and a half inches of skin lying between the two punctures is put strongly upon the stretch. The reason why the incision is made in the line of the trend of the external oblique aponeurosis is because it is better to split that aponeurosis than to cross-cut it; the reason why the skin should be put upon the stretch with tenacula is because an extremely neat division of skin must be made if we expect to obtain an evanescent scar afterward.

The external oblique aponeurosis having been split with the scalpel, we divide in the same line the aponeuroses of the internal oblique and transversalis muscles, transversalis fascia, and the peritoneum. This makes a cross-cut of the transversalis and internal oblique aponeuroses."

The "Jalaguier" or "Kammerer" incision is referred to in an article by Kammerer in the *Medical Record* of June 10th, 1899, as follows:

"A year and a half ago I published a modification of the incision at the outer border of the right rectus abdominis muscle for Appendicitis, which had for its object the prevention of hernia and consisted in the main in incisions through the various layers of the abdominal wall in different vertical planes, this being accomplished by drawing the rectus muscle sharply toward the median line after division of the aponeurosis of the external oblique. I performed this operation for the first time in the early summer of 1895.

A similar method, differing in a few particulars from my own, was employed by Jalaguier at about the same time.

In this operation the incision is made parallel with the linea semilunaris and about half an inch nearer the median line, or that much within the border of the rectus muscle. The anterior layer of its sheath is incised, the rectus drawn toward the median line and the posterior layer of its sheath with the peritoneum incised in the same plane."

For ease of reference it is better to call this "the incision through the rectus."

The "Elliot" incision is transverse, cutting squarely across the fibres of the external oblique aponeurosis, and then splitting the internal oblique and transversalis as in the "McBurney."

In further preparation for the discussion of the relative value of these various incisions, we should now consider the surgical principles involved in the question; which is the best incision?

The objects to be attained are the most direct access to the diseased appendix, with the least damage to other tissues.

1. The incision must therefore be made as near as practicable to the diseased organ. 2. The wound must be reduced to the minimum in length. 3. The structures wounded, whether muscles, aponeurosis, vessels, nerves, should be as few as possible. 4. The time required for opening and closing should be as short as can be attained. 5. The wound should admit of closing with as close coaptation of each set of tissues as possible, and without interspaces for the accumulation of serum or blood, or else with easy application of temporary capillary drainage. 6. The ultimate result must be as firm and strong a cicatrix, if possible, as the rest of the abdominal wall. 7. In many cases the cosmetic effect should be as good as is attainable.

The incision which best attains these seven aims will be the best, but the most important of them all is the strength of the cicatrix or its resistance against the formation of hernia. It is difficult to learn just how frequently the operation of Appendicectomy is followed by hernia when the operation is properly performed. I have always been on the watch for it, and thus far I have never been able to learn of a case, in the practice of my colleagues or myself, but I do not therefore conclude that it may not have occurred.

I recently thought that I had gotten upon the track of a case of my own through Dr. J. W. Clapp, but it proved to be a relapsed Bassini.

I have only seen two cases from any source, and those were where the operation had been most improperly performed, one by a well-known Boston surgeon, both being made by an oblique incision at least five inches long.

I believe myself that in skillfully conducted operations, even if suppuration occurs, or even in drainage cases, there need be very little danger of hernia. Coley says, however, (Annals of Surgery, Aug. '97), "Probably few appreciate the number of cases of hernia following this operation. Since April, 1895, there have been observed at the Hospital for the Ruptured and Crippled, fifty-five cases." But he also adds, "there was evidence in many cases that the wound had been improperly closed." I think he also might well have said that the wounds had been improperly made.

The elements contributing most to the prevention of hernia are the shortness of the wound, the best selection of the structures to be severed, the closeness of the coaptation.

That the shortness of the wound should lessen the weakness of its seat would seem to be self-evident.

If it were possible to do the work through a quarter inch or half inch incision who would ever fear a hernia, or even suppuration from such a small breach of continuity? The nearer therefore we can approach that length the better.

I believe that all thoughtful surgeons are using a much smaller incision than formerly in order to avoid post-operative hernia, as well as to hasten the convalescence.

In the selection of structures to be severed or disturbed many questions arise which will be best considered in the study of the individual operation, and the same applies to the relation of the structures when closed in coaptation.

We may now take up the various described incisions:

The "vertical" incision falls a little to the inside of the coecum, but gives sufficiently ready access to the site of the appendix. It goes through but one kind of structure, beside the skin and peritoneum, namely, the tendinous. The blood supply is not abundant and there will not be much oozing. The wound may be short, and the coaptation satisfactory. The wound may readily be lengthened to almost any extent.

Notwithstanding these advantages this incision is not generally employed, probably because lying in the thinnest part of the abdominal wall, and involving practically only one layer of resistant tissue, the cicatrix is liable to be correspondingly weak and thin.

The "oblique" incision may be made directly over the site of the disease. It has the advantage of splitting the fibres of the external oblique instead of cutting them across. It may be extended upward and downward. It has the disadvantage of cutting across the fibres of the internal oblique and transversalis, which retract considerably as soon as cut, and which, the strain, when united by sutures, will tend to pull apart, by splitting the fibres. When this incision is made long these are serious objections, but when made short, as in the "Morris" incision, and the edges of the muscles held by guy sutures during the operation, and very carefully closed layer by layer at the finish, these objections are practically removed. The peritoneum with the transversalis form one layer of strong tissue, the internal oblique another, and the external a third, and these three tiers if well united form a good wall. If either capillary drainage or stay sutures are used when necessary the wound will probably be a dry one, and the union rapid and complete. These remarks apply only however to the "oblique" incision as practiced by Morris, and not over one and a half inches long, or as recommended by McBurney, in his "simplest" incision, "not much over one inch through the internal oblique and transversalis."

This operation may be made as quickly as any and perhaps more so.

We may now consider the merits and demerits of the "McBurney" or muscle splitting incision. Theoretically it certainly has much to commend it. No tissues are cut across the fibres and no vessels or nerves are severed except in the skin, transversalis fascia, and peritoneum. Upon closure, the muscles and aponeurosis will lie naturally together and there will be no muscular tension to draw them apart.

McBurney himself says, "This operation has the following advantages: Muscular and tendinous fibres are separated but never divided, so that subsequent muscular action does not tend to draw the edges of the wound apart, but rather actively approximates them. Excepting from the skin and subcutaneous tissue no bleeding occurs. The fascia transversalis not being drawn away by the retraction of the deep muscular fibres, it retains its relation to the peritoneum, and with the latter membrane, is completely sutured. As muscular fibres and nerves have not been divided, there is scarcely any pain felt. Owing to the absence of nerve-section, it can always be noted in a patient on whom this operation has been done, that there is perfect symmetry of the abdominal wall when the erect posture is resumed; that is, no paralysis of the rectus muscle follows."

Senn says: "One of the great advantages of McBurney's muscle-splitting incision is that only slight damage is inflicted upon the muscular part of the abdominal wall, and consequently, if the wound be properly closed, there is very little liability incurred to the formation of a ventral hernia as a remote consequence of the operation; this latter cannot be said of operations in which the incision is made by cutting the abdominal muscles freely, without regard to the direction of their fibres."

These are all the advantages that I can find for the "McBurney" method, notwithstanding that it is advocated by a few able surgeons.

Its only merit, if any, is the non-section of muscles, and for this reason the prevention of hernia. If any other operation can be found that is equally as efficacious in this latter respect there is nothing more to be said for the "McBurney" for the following reasons: The incision is long, not usually less than three inches. This disqualifies it for all the merits of the short incision.

McBurney himself says: "This operation requires more time than the 'simpler' one," and time is an element in the success of all operations.

Sajou qualifies his favorable view of the operation as follows:

"Some operators have found that when the appendix is in its normal position and is not difficult to bring out, McBurney's method is almost ideal; but when difficulties arise and the incision has to be enlarged, the necessarily constant and hard retraction of the muscles is likely to injure the tissue and sometimes to cause suppuration. If it is necessary to enlarge the wound, there results a ragged and complicated wound, not well adapted to drainage if pus is found. The position of McBurney's incision is also thought by some to render proper drainage difficult to obtain. Other incisions are therefore resorted to."

Morris expresses the important objections to the operation very effectively as follows:

"Some operators have tried to split the transversalis and internal oblique muscles instead of making a cross-cut through them, the so-called 'criss-cross operation.' It is necessary to make a needlessly large incision and to hold the margins of the divided external oblique aponeurosis out of the way with retractors for that operation. The external oblique aponeurosis is scantily supplied with blood from vessels running through the loose connective-tissue planes above and below it, and if we hold its margins out of the way with retractors the vascular connections are so injured that semi-circular portions of the external oblique aponeurosis corresponding to the parts that are pulled aside with retractors are quite likely to either slough or become absorbed later, thus leaving a weak spot in the abdominal wall at the site of operation. In such a case the wound heals by primary union at first, but at the end of a few days there is evidence of suppuration beneath the skin, and on opening the wound for drainage, and examining the margins of the external oblique aponeurosis, we find them blue, ragged, and sloughing. This accident does not happen in the Bassini hernia operation, so far as my observations go, because at that point the external oblique aponeurosis receives a fairly good blood supply. In the Halsted hernia operation we approach the danger line, but at the site of the operation for the removal of an appendix the external oblique aponeurosis is so poorly supplied with blood that we must be extremely cautious about separation of the loose connective-tissue attachments with retractors in operations in which this work is to be done. Sloughing of semi-circular margins of external oblique aponeurosis occurred in two of my earlier operations, and I believe that surgeons must abandon operations which involve this feature."

Bryant says, "The gridiron ('McBurney') method is ideal when the extent of the disease admits of proper treatment. But when for any reason it becomes necessary to enlarge the opening by traction or free tension to meet the requirements of proper technique, the muscular structures especially often suffer to an objectionable degree."

In view of these weighty objections, it seems very surprising that Senn should mention and recommend this operation only, and should also appear to be entirely unconscious of its disadvantages.

The method of Elliot, which was first described by him in the Boston Medical and Surgical Journal, Oct. 29th, 1896, has certainly some theoretical advantages. It reverses the processes of the various oblique incisions in an important particular. Whereas all of those incisions split the external oblique and cut across the other two muscles, this cuts across the external oblique and splits the internal oblique and transversalis.

These latter two muscles are doubtless the most important and it is an advantage if, as in the "McBurney," they can be split instead of severed. There seems to be no reason why the external oblique should not unite as well as the other muscles when cut across, and Elliot assures us that it does do so.

I certainly believe the operation to be better than the "McBurney," and that it may be a very good one if no better can be found.

The "Kammerer," or "through the rectus" incision will conclude our views of this subject.

This does not meet our first requirement as well as some others. It is not as near the diseased organ as they are, as it falls usually a little inside of the caput coli, and requires some sweeping around of the fingers to bring up the colon with the appendix. In large or muscular subjects the wound has to be a little longer than the short "oblique" or the "Morris." It takes usually a little longer than they do. In some cases with a large and rigid rectus the operation is rather difficult if we are to get far enough under it to make a good operation. The closure of the peritoneum and posterior sheath is also somewhat difficult in those cases, particularly if the omentum keeps getting in the way. The guy suture helps this but not as much as in the "Morris" where the inner wounded edges can be lifted more.

This incision meets all the other indications of the operation excellently. The only structures wounded beside the skin and the peritoneum are the anterior and posterior layers of the sheath of the rectus, and which when re-united have no tendency to draw apart. The muscle falls back into its place between them and forms a perfect splint against any possible tendency to hernia. If stay sutures are used there is danger when penetrating the rectus of puncturing a branch of the epigastric vein and flooding the wound with blood. This can usually be readily controlled, but I prefer to close the layers with chromicized catgut, with capillary drainage when necessary, omitting the stay satures in most cases.

Some have objected to this incision as dividing some nerve fibres running into the rectus and thereby inducing some atrophy later. I must confess that I have never seen either the nerve fibres or the atrophy.

The nerve fibres are readily swept out of the way as the two forefingers penetrate under the muscle and dissect it off from the posterior layer of the sheath and lift it from its bed.

It is true that McBurney speaks of " the very undesirable opening of the sheath of the rectus muscles," but he gives no reason for this opinion, and I think it would be difficult for him to do it in the face of the hundreds of times in which it has been done. This meets the sixth requirement probable better than any other. It forms a cicatrix as firm as any other place in the abdominal wall. Sajou says, " It is thought to prevent post operative hernia better than any other."

It is also capable of meeting the cosmetic requirements of a short incision, and evanescent scar, as well as the "Morris."

This, as far as I know, is the operation by far the most frequently made by my colleagues at the Massachusetts Homœopathic Hospital. I do not know exactly how we fell into it, but if my memory serves me, it was practiced there certainly by Dr. Winn, Dr. Packard and myself some years before anything was published about it by the writers who now give it their names, as early I am sure as 1893 or 1894.

It has had therefore a pretty long and thorough test with us, and I do not hesitate to say that in my opinion, all things considered, it is the best incision.

If, however, I could be assured that the "Morris," or short "oblique" incision was as secure against hernia, I should prefer it for ease and quickness of accomplishment, and the direct access to the appendix, and for these reasons I sometimes use it in persons, like young women, who are not likely ever to be subjected to any strain which might induce hernia.

DISCUSSION.

Dr. Horace Packard. I have only words of commendation for Dr. Bell's paper, and am sure nothing can be added to its completeness.

First and foremost our relation to the operation for the relief of appendicitis is different from what it was ten years ago. Then the operation was performed only when the patient was advanced in the disease, while today the majority of the appendix operations are done under the most favorable conditions possible. Cases are recognized early, operation comes before the appendix is ruptured, and there is now a choice in methods of incision where there was none before. I mean by this that it is the universal practice where there is a tumor in the right inguinal region to open the abdomen. So much for what we used to do. Nowadays when we operate on a case where there is not immediate urgency, but can have a choice, where there is no tumor, and we have no reason to believe but what the appendix is accessible under the point which we know is its usual location, then we have the choice of these various incisions, which have been so well described. Through any of these incisions which have been described any normal appendix can be removed, and by normal appendix I mean one that is free, having no other than its normal attachments. Now I think that where there is a choice, my experience has led me to believe that no incision is so satisfactory and more easily worked through, and no incision which is so well conducive to the recovery of the patient than the one over the right linea semilunaris. In very fleshy patients it is not so easy, but it sometimes can be seen in the little narrow belly of the rectus muscle. And oftentimes after the patient is etherized, by running the finger along the muscle the place can be marked; then the incision is made which brings down at once to the fascia of the oblique, simply separate the fibres and that brings you down to the linea semilunaris; then an incision through that just to the inner side of it, so that there will be a distinct edge on each side. If you cut directly into it you may make a mistake and have so little left on each side of incision that you will have no edge, but if you go in far enough you will have edges which are easily identified. Then you go in and you will see an artery then a nerve, and you will have a wound big enough to get your finger in. Then the rectus is lifted away, an incision made in that about one-half to three-fourths of an inch towards the median line, then with finger through the wound, and if the cæcum is free, you can hook the appendix up through that wound very easily, and maybe you cannot. If there is a short cæcum bound down by an abnormally short mesentery, you will have to make the incision a little larger. It is all right to make a short incision, but you never know where you are going to end. It is a proper thing to make as short an incision as possible, but if you cannot do it without mauling about, then make the incision larger. The repair of the wound can be made most perfectly through this incision, closing the incision through the rectus muscle and peritoneum together; then the closing of the anterior sheath, which can be easily done, and then another line of catgut through the aponeurosis of the external oblique. All this is with ideal conditions. Now all these other incisions have been unsatisfactory to me. I have tried them all. I have made the McBurney incision and found it most awkward. It does very well for a small incision, but if you want more room it is very unsatisfactory. So I condemn that incision unless it is a case of necessity, where you have to go through to reach an abscess cavity as quickly as possible.

As to hernia. I do not think it ever occurs from the incision I have described, after the non-septic union of the wound, which has been sutured together in the normal way. I do not think it ever occurs or ever should occur. I do not believe it occurs in good cases.

ASEPTIC VACCINATION

BY A. H. POWERS, M.D., BOSTON, MASS.

In this good city of Boston, in the first nine months of the current year, there have been reported to the Board of Health fifty-five cases of smallpox. I say reported, for I believe that there have been a number of cases unreported and probably unrecognized, since the source of infection has not been found in a number of instances. This is more than we have had for a number of years previously, but is probably not more than we may have in the coming years, and I believe this for several reasons. The most important reason is the fact of the mild character of the disease as it presents itself throughout the United States. In the past two years there have been cases in every part of our country, and the total number of cases has been large, but the mortality has been small, and in several cities there have been heated discussions as to the diagnosis of cases which were presented in the epidemics. As to the reasons for the mildness of the epidemic I have nothing to say here, since it has no relation to the present topic. Another reason is that we have a generation of physicians who have seen few, if any, cases of smallpox, and hence they are unable to make a prompt and accurate diagnosis. This is still further the fact from the general lack of knowledge of skin eruptions, and it is commonly said of the general practitioner that he knows everything in medicine better than dermatology.

But you may be asking, what has this to do with vaccination except indirectly, and yet it is to emphasize the importance of vaccination that I have thus referred to smallpox. It is probable that the one thing that a medical student thinks he knows is how to properly vaccinate. It is so simple and easy that off-hand he can do it with credit and profit to himself. My first knowledge of vaccination came when as a child, a young man, a neighbor and a medical student, came to my father's house and vaccinated my sister and myself, and from then till now medical students have done much of the vaccination with which I have been personally connected, and the medical student usually becomes the physician, and commonly he carries with him his knowledge of vaccination. To say that any physician does not know how to vaccinate is to place yourself outside the pale of brotherhood of that member of the profession. Hence, rather than criticise, I simply suggest what to my mind is the ideal method, hoping that others may criticise and through courteous discussion we may gain the whole truth concerning this topic. Now how, when and where, shall we vaccinate? First, how shall we vaccinate? The surface which is to be inoculated should be cleansed with soap and water, preferably green soap, and this followed by washing with alcohol or ether, so as to make clean and aseptic the area for scarification. Then with a clean scalpel, needle or metal scarifier, remove the scarf skin from a square not larger than a fourth of an inch, down to the papillae, so that there is the slightest oozing of the blood or blood serum. Now, from a tube of glycerinated vaccine lymph apply a drop of its contents and rub it well into the scarified patch. Allow it to remain uncovered for fifteen minutes or until the lymph has dried, then cover with an aseptic dressing and this dressing continued till the crust has formed and fallen from the skin, leaving a non-absorbing surface. The time to vaccinate is, as I believe, in the cooler weather, avoiding the extremes of heat and cold, and the primary vaccination should accur before three years of age unless there is some proper contra-indication, and re-vaccination should occur before twenty, and again and again if an epidemic of smallpox appears. The point of election for vaccination is at the insertion of the deltoid muscle of the left arm, and rarely should vaccination be performed on the leg or thigh.

And now a few of the reasons for the suggested method and I will close. And first I wish to emphatically record myself as in favor of glycerinated lymph in preference to the dry points, and for the following reasons: The vaccine point practically always carries staphylococci and streptococci, but lymph subjected to the action of glycerine becomes, after a little, aseptic. It preserves the vitality of the lymph much longer than points, unless they have been especially dried, exhausting all the moisture. This gives a chance to test the lymph, so that any which will not conform to the highest standard may be discarded. In addition to the germs which all points carry, there are a certain number of blood corpuscles which may decay, and by the poison thus formed cause irritation of the wound. I was as skeptical as any one as to the advantage of this form of lymph, but years of experience have shown that the number of "bad arms" is only a fraction of what occurs when points are employed. An objection has been made that the glycerinated lymph has more failures to take than points, but that is on account of lack of knowledge of how it should be applied. The action of the glycerine when first applied is to draw the serum from the arm, and it is longer before it is absorbed than if the glycerine had not been added. Still further the lymph is diluted by the glycerine, and a fair amount of glycerinated lymph must be applied and rubbed in to insure success.

One word about shields. Many of them are a delusion and a snare, and an aseptic dressing of cotton and gauze has proved to be very successful in protecting the vaccinated arm.

This, then, is my idea of vaccination. Thus performed there is very slight local and constitutional disturbance and the dangers are insignificant and infinitesimal. My hope is that this paper may elicit enough discussion to clear away some of the fog which hangs over the medical and lay mind in regard to this very important topic.

DISCUSSION.

Dr. Alvin M. Cushing. I cannot get it into my head why glycerine and vaccine should be more successful than the other way. In the old days we used to have a scab, and it took every time. Then we had vaccination. One thing I do know that strong men go to bed and have great sores, and I do not believe this is right. I have been interested in vaccination for many years, and I believe in it yet. I believe if we use pure virus it will be all right. It is bad virus that causes the trouble.

Dr. Walter H. Tobey. What do you recommend, Dr. Cushing, may I ask?

Dr. Cushing. I recommend it right from the cow.

Dr. Henry E. Spalding. When I went into practice 36 years ago I used the humanized virus, then when the cow virus came into use, it was so much cheaper I used that. Of late I have used the glycerine tube as recommended by Dr. Powers. I think it is safer.

As to the giving of certificates. Such an experience has come into my own practice. For instance, the parents come to you for a certificate. You examine the child and find it in suitable health to be vaccinated. To give them a certificate under the circumstances would, I think, be giving false testimony,— nothing more nor less.

Dr. James Utley. We vaccinate in our office between seven and eight thousand people a year. We use capillary tubes and very seldom have any complications as a result of vaccination,— not near as many as when we used the ivory point. We get good success.

Dr. G. Forrest Martin. Dr. Powers mentioned that there were certain contra-indications for vaccination. Will he kindly give his views as to contra-indications.

Dr. Powers. First, I would like to say a word about what Dr. Cushing said. As a matter of fact the capillary tube with its glycerine preparation makes a very much better way, and the virus is much better and safer. The glycerine kills all septic bacteria. You put the fluid in glycerine and after a period of five, six or eight weeks they are all destroyed. That is what the laboratory says. For the last, I do not know just how many years, I have had charge of vaccination in the dispensary on Harrison Avenue. We used in one year 1700 tubes, and we often vaccinate three or four from a single tube, so you can understand what we do. I have seen bad arms come more from the use of points and improper care of the arm. Since, however, using capillary tubes, the bad results are very few and far between. You must remember that the protection is often removed by the children, and thus sepsis and bad results follow.

Now as to the contra-indications. I should say that when a child is recovering from any existing unhealthy condition of the body, as whooping cough, malaria, pneumonia, measles, etc., we should wait until restoration to health. Also children with an eczematous condition. Personally, however, I have seen as many cases of eczema get well after vaccination as otherwise, so that is not necessarily a contra-indication. I think the constitutional symptoms from properly conducted vaccination are infinitesimal. Of course, you may get complications if proper precautions are not taken, the same as in any other wound.

Dr. Thomas M. Strong. Dr. Powers said it was preferable to vaccinate on the arm, rather than on the leg. Personally, I should seriously object to a bad mark on the arm of my child.

Dr. Powers. As a matter of fact, if you keep the child quiet, and take proper precautions, probably there will be very little, if any, scar on the arm. My objection to the other way is, that vaccination on the leg results in a good deal more disturbance and more pain than on the arm. The scar itself should never be more than one-fourth of an inch in diameter.

REPORT OF THE SURGICAL SERVICE OF THE MASSACHUSETTS HOMŒOPATHIC HOSPITAL FOR JULY, AUGUST AND SEPTEMBER, 1901.

BY WINFIELD SMITH, M.D., BOSTON, MASS.

To avoid confusion in the consideration of the number of cases which it is my privilege to report this morning, I have used a somewhat unique classification in which all the cases come under the following heads:

ABDOMINAL.
VAGINAL.
MALIGNANT AND TUBERCULAR.
RECTAL.
FRACTURES AND DISLOCATIONS.
BONES AND JOINTS.
BENIGN TUMORS AND SEPTIC CONDITIONS.
GENITO-URINARY.
EXAMINATIONS FOR DIAGNOSIS.
MISCELLANEOUS.

It is somewhat unusual to combine malignant with tubercular diseases, but it may prevent misunderstanding in the consideration of the mass of cases, and will give me an opportunity of particularizing where the possibility of an error may come up.

The whole number of cases submitted to anæsthesia during the months of July, August and September, 1901, is 300. Of these many were of minor character, but the list as appended may indicate that a large percentage of them were abdominal, or generally serious cases, submitted to somewhat severe operation. The number of cases in each list is as follows:

ABDOMINAL,	85.
VAGINAL,	46.
MALIGNANT AND TUBERCULAR,	32.
RECTAL,	22.
FRACTURES AND DISLOCATIONS,	18.
BONES AND JOINTS,	14.
TUMORS AND SEPTIC CONDITIONS,	36.
GENITO-URINARY,	11.
EXAMINATIONS FOR DIAGNOSIS,	20.
MISCELLANEOUS,	16.
TOTAL,	300.

In the list of abdominal cases there are many of considerable interest. It will be impossible to more than speak in general of the majority of them. I shall, however, take the opportunity of reporting several of them which seem to have particular interest, or which exhibit somewhat unusual phases. I will say at this time that it has been our habit to remove the appendix when the abdomen has been opened for other purposes than appendicectomy in every case in which there seemed to be the slightest inflammation about the caecum. For this reason one might consider that the ordinary laparotomy would be somewhat complicated; but the reverse has been proved to be the fact, and in no case has there been any inflammatory or septic response to these procedures. I think it may be said that the majority of the patients suffering from salpingitis or ovaritis, with or without the appearance of pus in the uterine appendages, exhibit more or less complication in the way of inflammation and adhesion in the vermiform appendix, and hence if left after laparotomy with the appendix still in situ, is liable to subject the patient to the dangers of a recurrent appendicitis and another operation for its relief.

The number of appendicitis cases appearing in this service which were not complicated with inflammatory conditions in the neighboring or distant organs, was 28, a smaller number than we had in the service during similar months in 1900. Of these, two cases died, and will be treated more fully when we come to the consideration of deaths occurring during the three months.

Under the head of "Vaginal" we have included all cases done through the vagina, with the exception of vaginal hysterectomy which comes under the head of abdominal cases. In this list there are 46 cases, and the usual operation has been one to overcome endometritis, or adherent placenta, lacerated cervix and perineum, recto-vaginal fistula or uterine polypus, with here and there a case of inflammation of Bartholini's gland calling for its removal.

Under "Malignant and Tubercular" we find a large number of cervical glands, carcinoma in various parts of the body, a number of cases of hip disease, and a very small list of carcinoma of the breast compared with any service in the past of which I have any knowledge. It is, of course, impossible to reason to any definite conclusions from one service, but it certainly appears that there is a decline in these cases of breast cancer from what we have had in previous times.

Under "Rectal" we find 22 cases, and in this class we have included ischio-rectal abscess of which we had a considerable number, hæmorrhoids, fistulæ in ano and fissura ani, sometimes in complication one with the other. I would like to take this occasion to go on record as being in favor of the use of the cautery in cases of fissura ani and hæmorrhoids and to testify that the use of the hot iron has personally given me the best results which I have been able to obtain in rectal conditions of this nature calling for operation.

Under "Fractures and Dislocations" there are 18 cases of various kinds involving most of the bones liable to fracture, as for instance the inferior maxilla, the humerus, radius and ulna, the femur, tibia and fibula and the clavicle. I shall report more of these cases in full a little later, but would like at this time to call your attention to the fact that we have wired a number of cases and that invariably satisfaction has resulted from that procedure.

Under "Bones and Joints" we have listed 14 cases, exclusive of those in which actual fracture has occurred, but including certain cases in which more or less serious conditions have resulted from traumatism. Several of these cases will be reported more fully later, so we will simply hint at them at this time.

Thirty-six cases are considered under the head of "Tumors and Septic Conditions," and these include benign tumors of every nature except those in the abdominal cavity, and in addition, the consideration of such cases as are complicated by, or entirely due to, septic inflammation. Some of them will be considered later and so we will leave them for the present.

Under "Genito-Urinary" we have included 11 cases such as phimosis, hydrocele, varicocele, stricture of the urethra and urethral calculus. There is nothing extremely interesting in this list, the operations being circumcision in phimosis, dilatation in stricture, and extirpation of the veins and sac in varicocele and hydrocele respectively.

It has been deemed best to report the cases of "Examination for Diagnosis," and I have included them under this head and we find them to be 20 in number. In many of the cases, as in pleuritis and carcinoma of the cervix, specimens have been removed from the growth or part under consideration for pathological examination to aid in the diagnosis. Aside from these few facts they present, of course, no interest whatsoever.

Under "Miscellaneous" there are 16 cases which seem to come under no general head, such for example as paralysis of the larynx, on which tracheotomy was performed; varicose veins of the leg in which the entire vein was extirpated; foreign bodies in the eye; incised wounds; burns; webbed fingers; foreign body in the oesophagus, etc., with one case of floating kidney calling for nephrorrhaphy.

Among the cases coming under the heading "Abdominal," there are several of sufficient interest, perhaps, to report more at length. In general, it may be said that there have been no especial complications in the abdominal cases, with the exception of those which will be considered last, who died after operation. There have been, however, unusual phases exhibited at different times, and I will endeavor to enlarge upon them in connection with the cases in which they appear.

In one case, Miss B., (35), twenty years of age, with salpingitis in both sides, there was considerable inflammation following the operation which was exhibited by high temperature and pulse. On reopening the abdominal cavity very slight inflammation was present, but the second operation was undoubtedly of benefit as she thereafter recovered after a somewhat tardy convalescence.

In one case of cholelithiasis in which the gall bladder was opened in a man showing extreme jaundice, the largest gall stone which I have personally seen and which I will now exhibit to you, was removed. This stone in shape, as you will notice, has something the appearance of the stopper of a bottle, and undoubtedly occluded the biliary ducts in much the same manner as does a cork in the neck of a bottle. Unfortunately a portion of the liver near the middle of the organ and on the under side, was found to be much thickened and hardened, so that the diagnosis of carcinoma of the liver was made at the time the stone was removed. The subsequent history bears out this diagnosis, as while the patient has been comfortable and appears to be progressing quite favorably so far as the local conditions of the wound are concerned, there is an increase in the size of the liver, and it exhibits to the touch the hard nodular characteristics of carcinoma.*

Miss A. V., (74) 27 years of age, a woman suffering from pyosalpingitis, exhibited an unusual temperature the third day after operation. The pulse rose in response. The patient had the general appearance of local inflammation in the abdominal or pelvic cavity. The symptoms were so strongly indicative of the possibility of local inflammation, I determined to reopen the abdomen, although the wound showed no evidence such as one would expect in conditions governing the symptoms as they appeared. Nothing was found to account for the rise in temperature, so drainage was put in and the abdomen closed. The temperature and pulse continuing to go higher, the Widal test was used, giving a positive reaction, and the case was deemed to be typhoid complicating coeliotomy. The patient was treated in the usual manner, being transferred to the medical side, and I am informed has quite recovered her usual health.

Miss B., (112), 55 years of age, had an ovarian cyst about 10 inches in diameter which had ruptured before the abdomen was opened, how long previous to the operation I cannot say. The contents of the cyst was a gelatinous mass of a light milky color, and the peritoneal cavity was thoroughly bathed in this material, and the intestines were covered by a slimy substance in consequence of the rupture of the cyst. After the cyst wall itself was removed, it was impossible to make a satisfactory toilet of the abdomen for the reason that it was not possible to remove the sticky material from the different organs. Drainage was instituted and the patient later developed a temperature and pulse and general signs of collapse, which called in a few days for an intra-venous saline solution injection which was given as a last resort. She responded very well, much to our astonishment and delight, and recovered with no further complications.

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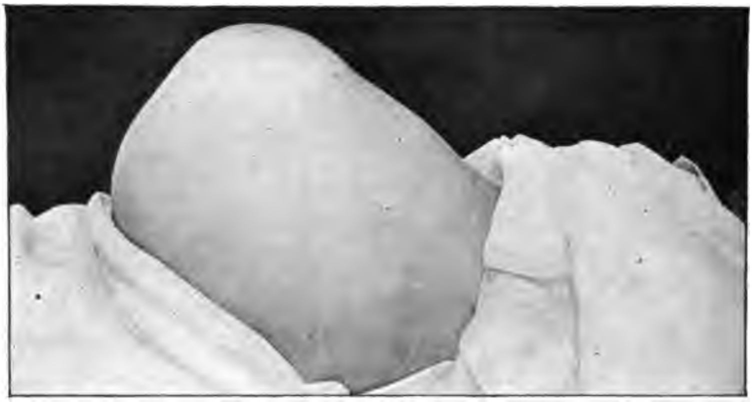
* NOTE:—This man died in December, 1901, and autopsy showed carcimona of the liver as cause of death.

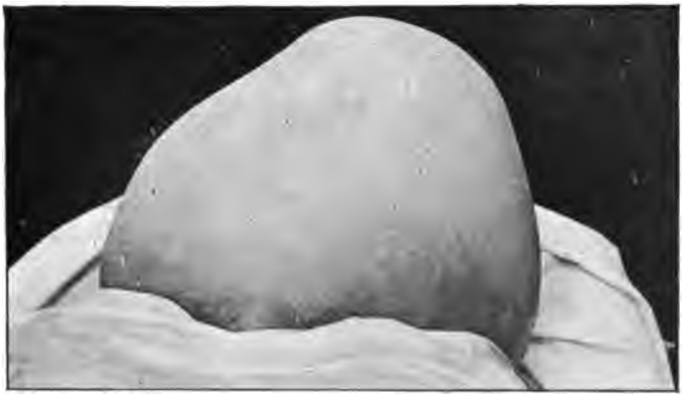
Mrs. G. E. S., (187), 30 years of age, suffering from salpingitis, was in a very bad condition when the operation was performed, for the reason that the pus tube had ruptured into the general peritoneal cavity. The pus was very widely distributed and it seemed impossible to cleanse the cavity thoroughly, but after developing a high pulse and temperature directly after the operation, she gradually began to improve, and after weeks of convalescence is now in good condition.

Mrs. C., (197). 50 years of age, is an interesting case for several reasons. She showed the classical, facial and general expression of one who has an ovarian cyst, the face being lined and drawn so that she had the appearance of a woman 75 years of age. She was a very small, slight woman, and had an abdominal tumor and cyst of the ovary which weighed 17½ pounds. She responded well, however, to the operation and recovered without unusual symptoms, with the exception of a nearly developed pneumonia the day before she was about to leave for home. She recovered from this, however, and went home well.

There are many other cases in this list which might prove of interest, but there is one which seems to me of particular importance. Mrs. B., (292), 46 years of age, had been suffering from tumor of the abdomen, which she recognized soon after the birth of her only child 21 years ago. This tumor was at first situated a little on the left side but gradually assumed the middle of the abdomen, developing to such a degree that she consulted several surgeons in Boston, among them our Dr. I. T. Talbot. At that time the abdominal operation was not so much in favor as at present, and she received no encouragement to submit herself to abdominal section for removal of the tumor. During the last few years she has consulted several physicians and surgeons, and was invariably advised against operative procedure. When first the case came under my observation it seemed to be the largest tumor I had ever seen. A careful examination was made with a view of advising something for the patient's relief. Photographs of the growth were taken at that time and I take pleasure in handing them about that you may see the appearance of the abdomen, at different views, which this tumor produced. There was undoubted fluctuation throughout the mass, but there were also large nodules distributed over the tumor which were harder than the rest of it, giving almost a fibroid feeling to the touch.



SIDE VIEW OF ABDOMEN.



VIEW OF ABDOMEN FROM FEET.

Case of Mrs. B.

She was advised to submit to operation, and on account of her failing health during the last three months she decided to take the chances, which would naturally be doubtful under the existing conditions. An unusually long incision was made disclosing a large amount of intra-peritoneal fluid, several quarts I have no doubt, and a large multiple cyst, which latter was found arising from the left ovary. As there were no adhesions at the top and back and front portions and at the sides, the incision was prolonged and the tumor rolled out and the point of its attachment seen to the left appendage of the uterus, complicated by adhesions to the right broad ligament and uterine appendages. The adhesions were easily broken up, pressure forceps applied and the entire mass removed from the abdomen and the pedicle tied off in sections. There were no complications in the operation of any kind worth mentioning, and the subsequent symptoms were undoubtedly produced by the sudden removal of such a large mass from the abdominal cavity. Several quarts of salt solution were left in the peritoneal cavity, which was drained, and the wound, some 14 inches in length, sewed up in the usual manner. Now appears the chief reason for reporting this case. The day following the operation, the patient apparently in good condition with a not over rapid pulse, developed a very rapid one, so much so that most of the day it was 120 to the minute. This continued for several days, a practically normal temperature and a very rapid pulse, with no symptoms such as pain, swelling or heat, to indicate that inflammatory conditions were developing in the abdominal cavity. The heart seemed simply to give up; to be worn out with its work and shock from the removal of such a large mass. The heart beat increased rather than diminished in frequency, and five days after the operation it was 130 or more with symptoms of collapse beginning to appear. Two quarts of saline solution were injected into the veins and the pulse went up at once to nearly 160 and the temperature to 105. This was, however, the culminating point in the case, as she began directly to perspire freely and went into a sound slumber. She had been, and was given so-called heart tonics, and the next morning the pulse dropped to a little over 100, the temperature coming down to 99 and a small fraction. From this time the progress has been uneventful. The wound has healed throughout its length and there is no inflammation or pain or swelling in the abdominal cavity, and the patient bids fair to recover without further complications.

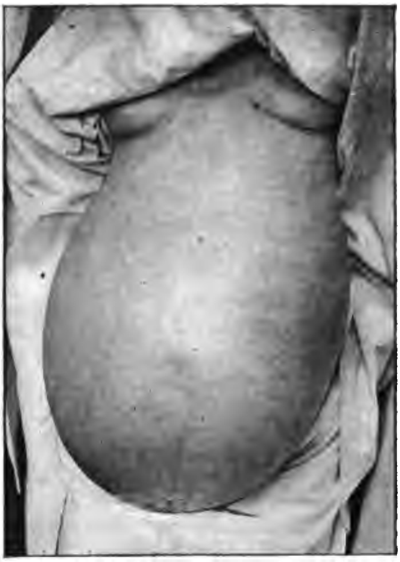
In this list there are but three cases in which the uterus and appendages were removed by vaginal hysterectomy, and all three were cases of carcinoma uteri, two being complicated by fibroma uteri, which in one case interfered very much with the removal of the parts through the vaginal route.

There have been several cases during this service of inflammation and suppuration of Bartholini's glands which called for extirpation of the gland on one or both sides in order to relieve the patient. I mention this particularly because a few years ago removal of the glands entire was never advised, the weight of evidence pointing to incision and curretting as the proper treatment.

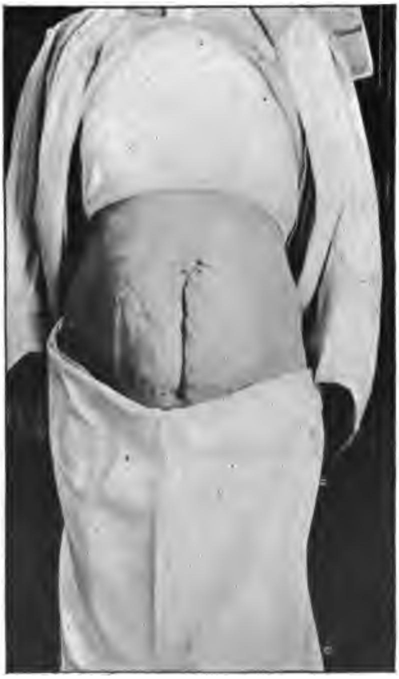
We were enabled to identify the gonococcus in two cases during the service, and I think it is fair to assume that the majority of cases of inflammations of this structure are due to the diplococcus. As it is a well known fact that inflammation starting from the germ of the gonococcus is liable to be of a very serious character, particularly if it develops away from its usual abiding place, it seems but fair to think that removal of the gland is the best and easiest way out of the difficulties from which women suffer when suppuration takes place in this body.

Under "Fractures and Dislocations" there are several cases which are worthy of recital. One case, that of Mr. I., (153), 16 years of age, was of particular interest, and I therefore take pleasure in showing to you the X-ray pictures of the case when it was discharged from the hospital. This case was one of fracture of the right ulna and radius, as you will see in the photograph, about one inch above the wrist joint. It occurred from falling off a ladder in some way unknown to the young man, as he was not aware of the fracture until after he picked himself up from the ground, not having been cognizant of having struck the part against anything in his fall, nor of falling upon it in such a way as to bring about such an injury. The case came into the hospital and was put up by Dr. W. F. Wesselhoeft after reduction, as was supposed at the time. The next day an X-ray photograph was taken and the displacement found to be very considerable, as shown by the picture. I then anaesthetized the youth and replaced the fragments in as good position as possible, and applied a splint which seemed to hold them perfectly in place. An X-ray picture taken the next day shewed that there was displacement quite equal to that of the previous occasion and called for something radical in order to keep the fractured ends in apposition. I, therefore, made an incision on the posterior and inner aspect of the ulna and on the outer side of the radius, and found both bones overlapping, the radius especially being displaced, the upper fragment being in front and the lower one behind, well up on the former's posterior surface.

Another remarkable thing in regard to this case was that we could not possibly reduce the fractures by any of the ordinary means, such as traction and manipulation, and the fragments were evidently strongly entrenched in their positions, so much so that it was impossible to overcome their displacement. A smooth, flat, periosteal dry



PATIENT STANDING.



ABDOMEN AFTER OPERATION.

Case of Mrs. B.

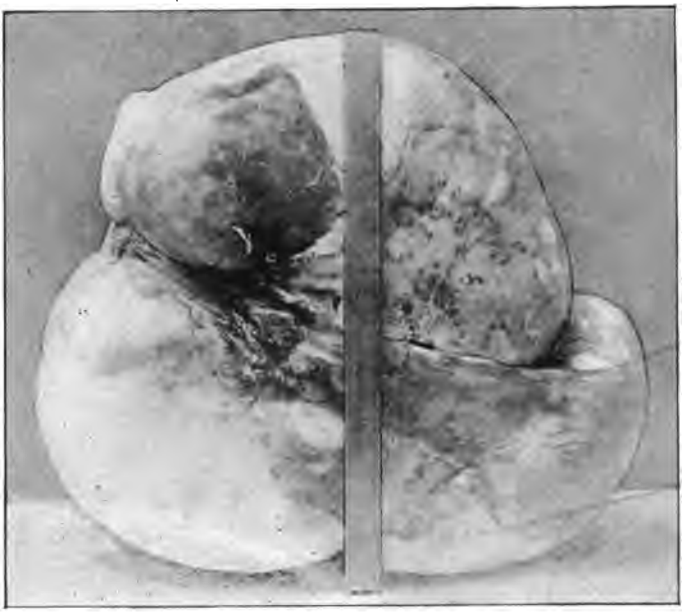
dissector was then brought into use, and while the ulna could be pried into position with comparative ease, owing to the fact that the fragments were somewhat comminuted, it was impossible without using great force with the upper fragment as a fulcrum, to pry the lower fragment into its position. It was, however, finally accomplished and the bones were wired together as well as possible under the conditions, and in this picture which I now have the pleasure of showing you, it will be seen that they are in excellent position, particularly the radius, and that the wires several weeks after the accident are shown in their passage through the bones, both from the front and side views. I speak of this case thus at length and exhibit the pictures for one purpose only, that being that wiring of the bones will, undoubtedly in the future, be much more frequently undertaken than in the past, and to demonstrate how difficult it is in an apparently simple case with the bones directly under our fingers to accomplish proper reduction and retain the fragments in apposition without the aid of the silver wire.

During the service there was one other case of interest, that of ununited fracture of the tibia in a man 38 years of age. This fracture had occurred four months previously, and I mention it again after having spoken of it in connection with Dr. Emerson's paper, simply as a matter of completeness, and to indicate that wiring of these ununited fractures is the quickest way out of many of our difficulties.

I had two cases of fracture of the outer condyle of the humerus, one J. H. M., (105) five years of age, which occurred nearly a year previous. The condition of the arm showed great deformity to the outer side of the elbow, and there was a large, loose, firm body which projected a considerable distance from the arm at this place. This body interfered with proper flexion and extension, and upon cutting down it was shown to be a large overgrown and thickened external condyle, which served as a foreign body within the joint. Removal of this structure was followed by free use of the arm, flexion and extension of the forearm being nearly perfect and supination and pronation almost free.

Another case, (180), H. Y., 10 years of age, was a fresh fracture of the external condyle from falling upon the elbow in the street. It was impossible under an anæsthetic to hold the fragment in such position as to allow of free motion in the elbow, and the arm was put up in a splint for observation. In consultation with the parents after the splint had been removed a few days for the purpose of investigating the state of affairs in the elbow, it was decided to try wiring as a remedy for the condition. On cutting down upon this fragment it was found that a loose triangular piece of bone had chipped off from the lower extremity of the humerus in such a way as to make it a foreign body, which in any movement of the forearm, especially flexion or extension, served to lock the structures and prevent free motion. The fragment was wired to the humerus in such a way as to prevent the wire from entering into the cavity of the joint, and after healing had taken place it was found that flexion and extension were not as free as might be desired. I then advised removal of the fragment, as in the previous case, but the parents refused to have anything further done, promising to report in a few months in order that we might again see the condition of the joint. The explanation of this condition following fracture, is undoubtedly that the proper circulation is cut off in such a chipping of the lower extremity of the humerus, and that pathological changes are liable to take place in the fragment in much the same way as we find sarcoma and other malignant deposits in testicles which do not descend into the scrotum, but remain somewhere along the canal.

The report of one more case may prove interesting. N. M. J., (99) 56 years of age, a policeman in a neighboring town, in attempting to arrest an intoxicated man about three months before we saw him, was struck upon the head by a large thick whiskey bottle in such a way as to leave a fragment about an inch long and half an inch wide sticking through his cap, and making it impossible for him to uncover his head until he had removed the fragment of glass. He felt fairly well for a short time, but soon began to suffer from headaches located particularly in the region of the wound and upon that side of the head extending to points over the eyes. He also began to suffer from a slight vertigo which would attack him on the street and cause him to have a tendency to fall forward and to the right. He was brought to the hospital by his physician, and after an examination by the neurologist, Dr. E. P. Colby; he was advised in consultation to have trephining performed for the relief of the symptoms. After making the usual curved incision over what seemed to be a depressed spot in the skull through the scalp, it was found that the bone seemed harder and firmer than usual. On removing a button of bone by trephining it was seen that there was much thickness in this region of the skull. An area of bone over two inches long and nearly as wide was removed from the site of the traumatism. The skull flap was then returned and sewed into position, a small drainage tube being used to avoid pressure upon the dura mater by accumulating fluids. I will say that the dura mater seemed tense and somewhat bulging, but exploration with a hypodermic needle gave no evidence of more than the usual accumulation of fluid beneath it. The progress of the case from the time of operation was very satisfactory. The wound healed by first intention, the drainage being removed the day after the operation, and the symptoms from which the man had been suffering for



THE TUMOR.

Case of Mrs. B.

weeks gradually subsided, until the time came for him to sit up out of bed, when he asserted that the headache and vertigo had entirely disappeared. As this had occurred in several other cases which had come under my observation, of epilepsy following accident of this kind, and the symptoms had returned in some degree later on, I was much interested to hear from this patient a few days ago, two months after the operation, and to learn that he was entirely well and thinking of resuming his occupation. The lesson to be learned from this case, it seems to me, is that operation after injuries to the skull which are followed by symptoms indicating a possible attack of an epileptic nature should be done as soon as possible after the accident to get a satisfactory result. I believe that many of our cases which are not as successful as we might wish, would show a better result if delay was avoided.

In this list of 300 cases we have to report nine deaths, making a death rate of three per cent. of all the cases as they entered the hospital.

The first case was L. H. W., (7), a man 40 years of age, on whom tracheotomy was performed as a last resort.

The second case, Mrs. E., (20), 46 years of age, was operated on for salpingitis and ovaritis and retroversion of the uterus. There was considerable inflammation in the parts and she died of general peritonitis. This case in my mind is the one doubtful one in the list, and I have never been sure but what sepsis was introduced from the outside, although she was in very poor general condition, subject to inflammatory processes, being a sufferer from chronic skin diseases which exhibited itself by furunculous inflammations in various parts of the body, particularly the face.

The third case, (33), Miss M. O., 40 years of age, was one of appendicitis in its last stages. The appendix had apparently ruptured hours before she was prevailed upon to come to the hospital. When the anæsthetic was administered she was already in cold clammy perspiration, which seemed to presage the end. We made an effort to save her life, but on opening the abdomen found general peritonitis due to the rupture of the appendix and a general distribution of pus, which left her in such condition after the operation that she lived but a few hours.

The fourth death, (107), Mrs. B. F., 68 years of age, was one of great interest and of unusual character. This patient presented a left breast filled with carcinoma that had existed for many months and which she had carefully concealed from her friends in the manner so common in people suffering from this malignant disease. The breast was adhered to the pectoralis major muscle, and when it was removed a great portion of the muscular tissue was taken with it as a matter of safety. The axillary glands being also enlarged and involved in an inflammatory process, were removed and the case thereafter ran the uneventful course of amputation of the breast for carcinoma. The healing was rapid and uncomplicated and the patient seemed to gain a new lease of life, until ten days after the operation when we were considering that she might leave the hospital. At this time, however, she began to develop a cough and pain in the chest, and on examination it was easily seen that inflammatory processes were going on in the thorax. These symptoms gradually increased in severity, and diagnosis was made of cancer of the lung, which was proved later, by autopsy, to be the case, and she died about three weeks after the operation.

The fifth case, (114), was one of sarcoma of the kidney in Miss A. H., 55 years of age. The patient noticed a growing tumor in the right part of the abdomen which rapidly increased in size, so much so that after consultation with her physician she came to the hospital hoping for relief. The tumor had rapidly grown, and when she entered the institution it showed itself as a prominent unyielding mass on the right side of the abdomen reaching nearly from the top to the bottom of the abdominal cavity. Her general condition was poor, pulse being very weak and rapid, and it was extremely doubtful if relief could be secured by operation of any kind. She was etherized once and a careful examination made, with the hope of removing the tumor, but her condition became so bad and the pulse so weak, fluttering and rapid, that it was deemed inadvisable to take such a step without consulting her and presenting the difficulties of the case fairly to her. The next day she was told her serious condition and was rather advised against operation, but she begged that something be done to relieve her and was more than willing to take the responsibility of such an operation as might be selected. Accordingly in a few days when her general health had seemed to improve, an incision was made in the right side of the abdominal wall the whole length of the tumor, eight or nine inches altogether. The ascending colon was pushed aside, an incision made through the peritoneum posteriorly and a large sarcomatous kidney presented itself in the wound. The blood vessels supplying this new growth were many and large, but we were fortunately able to draw out the tumor without much loss of blood, and the pedicle, containing the ureter and blood vessels, was easily ligated. By this time the patient was in a serious condition from the shock, as had been anticipated. She, however, rallied, and we felt sure that she was going to recover, but she sank suddenly in a few days, her heart and pulse exhibiting signs of great weakness.

(165), Mrs. A. P., 62 years of age, presented herself at the hospital with ascites, an unusual amount of fluid being contained in the abdominal cavity, to such a degree in fact as to interfere by pressure with respiration and the action of the heart. There was mitral insufficiency and kidney complication to quite a degree, and undoubtedly cirrhosis of the liver, owing to the peculiar feel and shrinking of that organ which we were able to demonstrate after the ascites had been relieved. She had some comfort for a day or two following the operation, but her general condition was such that she died in a few days.

Another case of interest was (54) A. G., five years old, suffering from appendicitis and brought into the hospital in great haste. The appendix was ruptured and there was pus free in the peritoneal cavity, but the case presented no unusual conditions and seemed far from hopeless at the time. Unfortunately the child was suffering from a severe attack of whooping cough and this had undoubtedly caused the rupture of the appendix before it otherwise would have occurred. A severe paroxysm of coughing after the operation had undoubtedly something to do in preventing proper healing and recovery. This is the only case suffering from pertussis on which I have operated for any abdominal disorder, but I feel convinced from this one case that it is a complication far from pleasing when one has an abdominal operation in contemplation.

I have now two cases to report of considerable interest because, while they are unusual in a way, it is a fact, in my opinion, that we must turn our attention in their direction more frequently than we have hitherto considered necessary. I refer to rupture of the gall bladder. I have seen several cases of it previously and had these two cases in one service. It has been particularly impressed upon my mind that physicians in general practice should have these facts called to their attention a little oftener than I have heretofore seen it done. The first case had been under treatment by an old school physician for over a week and he sent him to the hospital with the statement that he was unable to determine from what the man was suffering. The symptoms presented were as follows: The abdomen was swollen, tense and resistant, there being considerable general tympanitis with dullness in the region of the gall bladder and appendix. The pulse was fluttering, weak and irregular, and on examination of the urine hyaline and granular casts were found in great abundance, there being fourteen in one field under microscope, low power. I deemed it an inoperable case, and on post mortem examination a ruptured gall bladder was discovered. This was the minor one of his difficulties. He also suffered from endocarditis, pericarditis, the heart muscle being entirely adhered to the pericardium, and the kidneys were found so much disorganized that their condition alone would account for his death. It does not seem possible that rupture of the gall bladder could be the first disease which attacked him. I could not conceive of any septic condition arising from this organ producing such marked effects in the heart and kidneys. But the rupture must be taken into consideration, and if nothing else had complicated matters it would eventually have caused his death.

The ninth case is likewise one of ruptured gall bladder. The man had been sick for several days with pain in the right side, and his physician had suspected appendicitis but was not sure of his diagnosis. He was called very suddenly to the patient one morning after he had been suffering for fully a week, and found him in a state of collapse which he was able to combat with the ordinary remedies to such a degree as to get him in such a condition that he could be brought to the hospital. I found the patient somewhat recovered from the shock, and from the doughy feeling and dullness in the upper right corner of the abdomen, a diagnosis of ruptured gall bladder was made, and from incision made as soon as we could prepare the patient, we verified this diagnosis. The gall bladder was concealed in a mass of adhesions, but directly the peritoneal cavity was opened, a fluid easily recognized as bile rapidly flowed out of the incision. Breaking up the adhesions the gall bladder came into view and exhibited a rupture on the very topmost point of its fundus. Exploration of its cavity disclosed two gall-stones, which were easily removed. The gall bladder was then sewed to the abdominal wall and drainage used for the peritoneal cavity. This was unavailing, however, he never thoroughly recovered from the shock and died the next day.

These two cases emphasize to my mind the value of inspecting the gall bladder region in all cases of exploration for abdominal disease, and the necessity of keeping in mind that not everything we open in the right side of the abdominal cavity is appendicitis, but that serious conditions of the gall bladder and the parts immediately about it, may be found complicating an appendicitis or independent of it. It is well to bear in mind again that the gall bladder is frequently somewhat low in its situation and that a mistake in diagnosis is easily made under such conditions. Particularly is it necessary to remember that rupture of the gall bladder from internal pressure is no unusual occurrence, but that we may expect to find it in a larger percentage of cases than reports hitherto issued would lead us to believe.

REPORT OF THE COMMITTEE ON OPTHALMOLOGY, OTOLOGY, RHINOLOGY AND LARYNGOLOGY.

N. H. Houghton, M.D., *Chairman.*

I. Mastoiditis with Report of Cases, Frederick W. Colburn, M.D.
Discussion opened by Howard P. Bellows, M.D.

II. Catarrhal Children, Edward Beecher Hooker, M.D.
Discussion opened by George B. Rice, M.D.
Carroll C. Burpee, M.D.

III. Purulent Contagious Opthalmia Neonatorum,
John H. Payne, M.D.
Discussion opened by George A. Suffa, M.D.
George R. Southwick, M.D.

MASTOIDITIS WITH REPORT OF CASES.

BY F. W. COLBURN, M.D., BOSTON, MASS.

In treating the subject of Mastoiditis I have taken the liberty of limiting myself to the acute form. As the term Mastoiditis implies, it is an inflammation of the muco-periosteal lining of the mastoid cells. Seldom is this a primary affection originating in the mastoid itself; but occasionally it does occur however, and then usually as the result of some traumatism of the part, or is of a specific nature.

In the vast majority of cases the inflammation in the mastoid cells is a direct extension of an acute otitis media, which in turn is directly dependent upon a cold, general or infectious diseases (typhus, scarlet fever, tuberculosis and syphilis), or injection of fluids into the tympanum. The most frequent cause at present, however, being Influenzal Otitis.

An attack of acute mastoiditis as has been stated, is usually ushered in by a violent Otitis Media with all its characteristic symptoms:—sharp shooting pains in ear with a throbbing which extends over the whole affected side of the head. There may be dull frontal headache aggravated by the pulsation of the congested arteries. All symptoms aggravated at night, the aggravation usually coming on as the sun goes down and quieting as the daylight appears. Patient is nervous and restless, frequently walking the floor on account of the pain. Hearing is diminished on the affected side. Drum appears congested and rapidly becomes thickened and œdematous while the exudate within the tympanum causes a bulging of the whole membrane.

If the tympanic membrane remains intact, now is the opportunity for the exudate within to be forced backward by pressure and gravity into the mastoid antrum and cells simultaneously with the extension of the inflammatory process along the epithelial lining of the aditus to the antrum and cells beyond. This fluid in conjunction with the hyperaemic condition of the lining membrane of the cells gives rise to an increased tension within the whole middle-ear and mastoid-process which emphasizes the previous symptoms and also adds new ones to those already existing:—tenderness on pressure over the antrum is the first and is soon followed by sensitiveness over the whole mastoid process to the tip. If the antrum and the aditus are large while the communications between the cells and the antrum are small, the pain and sensitiveness at the tip are apt to be more severe than that at the antrum. Frequently there is more or less stiffening of the muscles of the neck causing the patient to carry the head slightly on the affected side.

An examination of the drum at this time, providing it be still intact, will reveal a bulging and sagging of the postero-superior wall of the canal close up to the tympanic ring. The membrane itself is red and inflamed.

Thus far we have assumed that nothing has been done toward arresting the progress of the malady. Should this be allowed to go on uninterrupted there are grave complications likely to result.

1. The proximity of the mastoid cells to the sigmoid sinus makes it an easy matter for the pus to break through into that canal and there set up an inflammation of the dura and possibly a thrombosis of the sinus. The great danger of the latter is from the tendency of the thrombus to become septic, resulting in septic emboli in the blood-stream and general septicæmia.

2. The thinness of the superior wall of the antrum and the tegmen tympani makes it also an easy matter for the septic material to force its way into the middle cranial fossa, setting up either a leptomeningitis or an epidural abscess. The latter being apparently an effort on the part of nature to limit the inflammation to a circumscribed area.

3. Another complication is the breaking through into the digastric fossa and burrowing along the base of the skull or down among the deep muscles of the neck, sometimes reaching the thoracic cavity and there setting up a serious septic condition.

The 4th can scarcely be called a complication since it is nature's method of evacuating the abscess within the mastoid process by rupture through the outer wall or into the external meatus. This seldom occurs however later than childhood.

The first two of these complications are most to be feared as either one of them immediately places the life of the patient in peril.

In Acute Mastoiditis there are two methods of treatment to be considered:—the *abortive* when seen early, and the *operative* when too late for the former.

In many of the text-books two signs are mentioned, either one of which indicates mastoid involvement, and the presence of both is claimed to be positive indication for operative interference. These have already been mentioned: Tenderness on pressure in the mastoid region, and sagging of the postero-superior wall of the canal close up to the tympanic ring.

In my experience, although these signs may be and usually are sufficient ground for operation, I believe that in certain recent cases the abortive treatment may be tried with safety and with very gratifying results. By way of illustration:—

Case I. Mr. A., aet. 35 years. On March 3d. last, during a fit of sneezing was seized with pain in the right ear which rapidly increased. Patient presented himself for treatment on March 7th, four days after the onset. He was suffering with severe pain in mastoid region as well as in the ear itself. Face flushed, patient nervous and had been unable to sleep for two nights on account of the pain, which was greatly aggravated at night. Examination of the ear revealed two sagging points from the postere-superior wall close to the drum. Mastoid process very sensitive upon deep pressure. Temp. 100$\frac{3}{5}$°, pulse 88.

Two clean incisions were made, one through each sagging portion of the canal wall followed by a copious discharge of sero-purulent fluid. Patient was then put to bed, cold coil applied to the mastoid process and Bell. 3x. given every two hours until the following day. March 8th. Patient reported a good night, pain relieved by cold. Less tenderness over antrum but more at tip. Pain returned after three hours without the coil. Coil was replaced and hot irrigations of sterile water were given ten minutes out of every two hours. ℞ Capsicum 4x.

March 9th. Tenderness diminished over the whole mastoid process. Discharge still profuse.

March 11th. Tenderness gone. Coil had been removed the day before.

March 16th. Discharge stopped and incisions healed. H. D.w. 6/50.

March 23d. H. D. w. 21/50.

Within a few weeks hearing became practically normal.

Case II. Miss P., aet. 27 years. During an attack of tonsillitis on Feb. 26th had severe pain in left ear, followed two days later by rupture of the drum and profuse otorrhœa. I first saw the patient on March 1st. At that time the tonsils were enlarged and inflamed but less sore than on the three days preceding. The ear was discharging profusely. The postero-superior portion of the drum and canal wall were bulging somewhat. Mastoid region tender on both light and deep pressure from antrum to the tip, where it was especially marked. The tenderness extended backward and also downward into the neck. The cords of the neck were stiff and tender. Pain in the mastoid darting upward into the temple on the affected side. Patient has been unable to sleep at night. Pupils dilated and frontal headache. Temperature $99\frac{3}{5}$°, pulse 108. Patient was kept in bed, cold coil applied and Bell. 4x. given.

March 3d. Less tenderness over the mastoid and only occasionally a shooting pain through the ear. Slept well through the night. Ear still discharging freely. Stiffness in cords of the neck gone.

March 5th. Coil removed. Only slight tenderness at tip. Some roaring in the ear but in a much milder degree. Is sleeping well.

March 8th. Discharge practically stopped. H. D. w. O. on hard pressure. Hearing later came up to 31/50ths.

In contrast to the two just cited, is the following:—

Miss B., aet. 49 years. Admitted to the hospital March 29th with a profuse sero-purulent otorrhœa of the left side which had been troubling for one week. Severe headache with sharp shooting pains darting through ears to the temples. Pain in the ear worse on the right side. Tenderness upon light and deep pressure over both mastoids. Examination revealed right drum highly inflamed and bulging considerably. Patient was extremely deaf and it was only by speaking very loud that she was able to hear at all. Paracentesis brought quantities of sero-purulent fluid which at once relieved the tension, but the pain continued. Cold coils were applied to both sides to abort the trouble if possible. On March 31st, two days later, the tenderness remaining the same, a modified Schwartze operation was performed on both mastoids, finding the whole cellular portion broken down and filled with purulent material and debris. After thoroughly curretting away all diseased tissue the cavities were packed with iodoform gauze and a sterile gauze dressing applied. On April 2d patient complained of the bandage growing gradually tighter. Dressing was removed, showing a much reddened surface all about the wound, ear was swollen and shiny-red. Wounds were repacked with sterile gauze. On the following day the condition had extended to the left side of the face, which was puffy and reddened over the greater part of the cheek and forehead. On the ear there was a vesicle. Appearances were in favor of erysipelas, so patient was quarantined, but the temperature was only $101\frac{1}{5}$° at its highest, without the chill and prostration which might be expected in erysipelas, and a diagnosis was made of Iodoform poisoning. Quarantine was removed and patient made an uneventful recovery. Both wounds healed and hearing came back to normal.

DISCUSSION.

Dr. Howard P. Bellows. No doubt we all have been interested in the reading of this paper. It is not my purpose to oppose anything the doctor said, but there are a few points which I would like to emphasize.

We must bear in mind the possibility that mastoiditis may develop and go on to suppuration without any involvement of the middle ear. Bacteria may find their way from the throat through the Eustachian tube, across the tympanum and through the aditus ad antrum to the mastoid process without producing any involvement of the tympanic cavity itself. In these cases there is little or no deafness, and there is little pain attributable to the middle ear itself, but the pain and tenderness centers in the mastoid process. We must not be misled, therefore, by the condition in which we find the middle ear. We may find mastoid disease without any serious disturbance of the middle ear.

Another point, in regard to temperature. Some physicians have said to me, "were it not for the fact that the temperature is all right, I should think of mastoid disease." In other words, there is sometimes a failure on the part of general practitioners to recognize this disease because they think it cannot occur without fever. They think that it is always attended by rise of temperature that is so well marked that it is unmistakable, but as a matter of fact, we have cases, especially those of a chronic nature, where the mastoid is seriously involved, and an operation imperative, and yet the temperature remains practically normal. It does not do, therefore, to take the patient's temperature and dismiss the case from your mind if you find that the reading is practically normal. In cases which are not typical it is even possible for a mastoid inflammation to proceed to such a length that operation is imperative to save the patient's life, without any of the symptoms which the doctor mentioned. I have myself operated on several cases where these signs were entirely absent, yet the mastoid was extensively diseased. However, we do usually have one or two of these guiding symptoms present, and especially tenderness on deep pressure, or sagging of the superior-posterior portion of the canal wall close to the drum-head. In the old school if either one of these two symptoms are noticed operation is often done at once, and the presence of both of them is commonly considered to be an absolute indication for operative interference. The appearance of either symptom certainly calls for immediate steps to abort further trouble, and having once inaugurated abortive measures, unless the response to treatment is very prompt and very decided, the question whether or not an operation is needed becomes a very critical one, and sometimes doubly difficult, because of the cloaking of symptoms by the means employed to overcome them. Having commenced abortive treatment, therefore, if there is not a very positive clearing up of the symptoms, it is well to call in a specialist to determine whether or not an operation has become necessary.

There is a little symptom the doctor mentioned — that of carrying the head on one side. This is an important one. You ask the patient if he cannot hold his head up, and he tells you, of course he can, but in two minutes it is on one side again. I have come to dread this symptom very much, as indicating a tendency to basilar involvement.

The abortive treatment was well presented by the doctor. It consists of ice-cold applications over the mastoid maintained for hours. Preferably a Leiter coil is used with ice-water running through it in a continuous stream, but there is danger of overdoing it. At the end of 24 hours it requires some judgment to know whether to continue it or not. To the use of Belladonna, both locally and internally, I attribute great importance. If it is true that we carry through more cases without operation than the old school, I believe it is largely due to the use of this drug. Capsicum is a close second, coming after Belladonna, although when we get as far as Capsicum it is often doubtful if we can carry the patient through. In addition to continuous application of cold back of the ear, free drainage is a matter of the utmost importance. This is favored by a thorough incision of the drumhead or canal wall in case of bulging, and by continuous hot irrigation of the canal with sterilized water, often ten minutes out of every hour for hours at a time, while the cold is continued upon the outside of the mastoid. In a very gratifying proportion of cases with such treatment operation is entirely avoided.

CATARRHAL CHILDREN.

BY EDWARD BEECHER HOOKER, M.D., HARTFORD, CONN.

The title of this paper may not be strictly scientific, but it is undoubtedly expressive and hardly needs definition. But for the sake of accuracy I will say that I refer to a large class of children who are particularly subject to acute and chronic imflammations of the upper air passages. Such children are forever catching cold and, between the acute attacks, blowing and snuffing, hawking and hemming, with nasal passages wholly or partially obstructed and their secretions altered in character and amount. They are mouth-breathers in many instances, their hearing is impaired, and they are afflicted with lymphoid hypertrophies, especially of the tonsils and vault of the pharynx, though this is by no means a constant accompaniment. Such children are pale, anæmic, with fickle appetite, and extremely sensitive to changes of air, from which they are jealously and zealously guarded by fond and anxious parents. These children are a lucrative source of income to the family doctor and specialist, and it is the height of unselfishness to attempt to cure them and to prevent others from becoming affected in like manner. Yet it is to the prevention and cure of this form of disease that I especially call your attention.

The conclusions at which I have arrived are largely the result of my own observations, the combined experience of a general practitioner and specialist. If, therefore, they smack more of homely common sense than of the bacteriological and pathological laboratory, it is not because I am not a firm believer in laboratory methods, for I am most heartily so, but because I can give you no first-hand account of them and am trying to tell you what I have thought out myself, imperfect though it be.

The first and most important step is to discover the cause of this widespread catarrh, from which few, either adults or children, are free in this climate, and the consequences of which may be so grave. To begin at the beginning, heredity has in the past been considered a large causative factor. But heredity is a thing of the past and I believe that here, as well as in other diseases, its influence has been greatly overestimated. In fact I do not feel sure that any disease except syphilis is really hereditary, that is, that the disease itself is actually transmitted from parent to child. I do firmly believe that certain tendencies are transmitted, that a certain delicacy or vulnerability of tissue may be hereditary. Tuberculosis is rarely, if ever, transmitted, but a constitution which lacks power of resistance may be and, alas, too frequently is the heritage of many persons. If such persons never come in contact with the bacilli of consumption they will never become affected with it, but if they do encounter these germs, they will be more susceptible than others not thus organized. So with catarrh, I believe that a delicacy of tissue may be hereditary, which renders the individual particularly liable to catarrhal inflammations. But this question is not one easily answered, for the surroundings of the child being for the most part identical with those of the parent, it is extremely difficult to discriminate between hereditary and acquired traits.

It is much the same with morals as with health. I do not believe lying is an hereditary vice, but a mendacious father is likely to have an untruthful son, and who can tell whether the moral weakness of the father is transmitted to the son or the evil habit of the son acquired by companionship with the unstable father. In either case, thank the Lord if there is a good mother, and there generally is.

The environment of the child is in my opinion the most potent causative factor in catarrh; and by that I mean climate, housing, dress, food and habits generally, all combining, in the civilization of the century, to produce a nervous, sensitive, delicate child, with too little power of resistance. The mischief is often begun in the first days, even the first hours, yes, the first minutes of a child's life, and doctor and the nurse are responsible for some of it. When a woman is delivered, it not infrequently happens that the new-born child lies for several minutes, before the cord is cut, in a pool of blood and water, or at least on wet sheets or cloths, while we are waiting for the pulsations of the cord to cease, or while respiration is becoming established. If the latter is delayed or imperfect, the child is sprinkled with cold water or spatted with a cold, wet hand. This, while necessary and proper, does not add to the salubrity of his immediate surroundings, and thus, if he escapes a malign heredity, he immediately becomes the victim of his environment. But fortunately environment can be changed, if heredity cannot, and the remedy is simple. As soon as respiration is established, immediately wrap the child in flannel. He has come from a home where the temperature was 99° to a cold world of 70°, and while the shock of the cold air is a splendid tonic to start his lungs into action, a small dose is enough and the skin needs prompt protection. Do not wait too long for the pulsation of the cord to cease. If the uterus has contracted well, the placenta is already in the cervix or vagina, and the placental circulation has ceased. You may perhaps feel pulsations two inches from the navel of the child, but twelve or fifteen inches away there are none and there is no advantage in waiting. Before the child reaches the world, be sure that you have flannel enough on hand to properly cover him, and do not be satisfied with the one old flannel skirt which is not infrequently the receptacle which receives him when he leaves your hands.

The nurse is likely to be the next sinner and in an exactly opposite way. The skin of all animals except man adapts itself to the climate in which the animal naturally belongs, and is covered with hair, fur or feathers, as the environment renders necessary, according to the nature of the animal. Man alone has to be artificially clothed. The respiratory apparatus on the other hand is able to adapt itself to changes of temperature and climate, and does not require protection as does the skin. Hence, while the skin of a new-born child needs to be well coated with wool, there is no good reason for covering his mouth and nose. Yet I cannot recall a single instance of childbirth in which I have not, before leaving the house, parted the coverings about the child's face and given it more freedom of respiration while equally well shielding its eyes from too bright a light. While the lungs are protected by the nose and throat against changes in temperature, there is no sense in training a child in the beginning to breathe through wool.

Climate itself is the most productive cause of catarrh, and especially the climate of the Atlantic sea coast and the great lakes. If the climate were steady and reliable, either hot or cold, it would not so much matter, but the sudden changes make the mischief, and the most trying of all features is the humidity of the atmosphere. Science has not yet been able to control the weather, and our only hope is to adapt ourselves to it and increase our powers of resistance. Yet to weaken this necessary power, we habitually overheat our houses in winter, thus magnifying the difference between the temperature within and without. On a keen, wintry day, what doctor does not dread the overheated house from which he will emerge in a sweat after his visit, to face a northeast wind — if he lives in Boston. If he does not dread it, he is either vigorous beyond his fellows, or a Christian scientist. Overheated houses, poorly ventilated schools and public places of assembly, either for worship or amusement, overheated draughty cars — these are causes, predisposing and exciting, of catarrh. We are slowly learning to improve these conditions, but, like the climate, they will always exist to some extent. It behooves us, therefore, to render ourselves superior to them, in other words, to toughen ourselves so that we can resist their harmful influence.

There is no tissue of the body which needs toughening so much as the skin and the process should be commenced in early life. The most effective methods are cold salt bathing, dry friction, proper clothing, cool sleeping rooms, systematic exposure of the surface of the body during exercise, and an outdoor life. The quality of the underclothing is of great importance. It should be at once warm and porous, capable of retaining heat and allowing evaporation of moisture. Ordinary woolen goods retain heat, but do not readily permit the drying of the skin when wet with perspiration. The best fabric that I know of is a combination of wool and cotton, called the Jaros underwear. This is made out of a layer of wool next the skin, not woven, but laid against a cotton base, with the wool fibres running in the direction they naturally take when on the back of the sheep. Moisture on the skin travels along these fibres and is taken up by the layer of cotton, leaving the wool dry and the skin beneath it warm and dry also. I think well too of the linen mesh underwear, though I have not personally investigated it. Indigestion, caused by improper quality and quantity of food, combined with too rapid eating, is so well known as a cause of catarrhal trouble that I shall simply mention it and nothing more.

If a child could be brought up in the sensible, hardy way I have indicated, I believe he would have but little catarrh, even in our climate, and would rarely catch cold. But what about germs, you ask? The germs we have always with us, but a vigorous person, child or man, need have small fear of them. I am a firm believer in the germ theory of disease, and a still firmer believer in our ability to resist their attacks and to destroy them if they enter the system. Probably every tissue and fluid of the body (except the waste products) is endowed with germicidal properties and, if they are in good working order, the germs will die which come in contact with them.

The cases which reach the doctor's office are already well-advanced forms of catarrh, and what can be done for them? Institute at once a mode of life in harmony with what I have suggested and begin the toughening process. If the nasopharynx is obstructed, open it out, not too radically, be cautious and conservative. Reduce hypertrophied turbinated bodies, establish free nasal respiration and drainage. Recent investigations have shown the important part in keeping up chronic catarrh which the accessory cavities about the nose play. Their openings must be free, and the especially critical region is that about the middle turbinated body. Remove all tumors, clear the vault of redundant adenoid tissue, and remove hypertrophied tonsils. Reduce the lingual tonsil if hypertrophied. Cut off projections of the septum of the nose and straighten its deflections, but again I say be cautious and conservative. Do not destroy mucous membrane that can be saved, for the new membrane that forms over the denuded tissues is never quite perfect in function. Avoid the use of actual cautery, if possible; use milder means, such as electrolysis, which is effective and without danger. It is important, when once free respiration and drainage are secured, to keep the passages clear by bland sprays and washes. Think of the amount of dust that the nasal tissues sift from the air. The hairy sieve in the nostrils holds back a great deal, yet very much passes through and is collected on the septum, floor and turbinated bodies of the nose. A normal membrane can take care of this invasion and protect itself and the system which it guards, but a diseased one is less active and vigorous in function and needs help. I believe in keeping the nose clean, as a part of the toilet, as we brush the teeth. A simple catarrh, even if chronic, can be cured, if no surgical help is needed, by thorough, persistent cleansing and disinfection of the nose. The application of very hot, dry air, about temperature of 400°, is a helpful measure in both acute and chronic catarrh.

In connection with local measures, surgical and non-surgical, attend to the general condition of the patient. When we spray, burn and cut, we are dealing with the products of disease, and however valuable these procedures may be — and they are often absolutely indispensable — we should try to go to the root of the trouble and deal with the system so that these pathological products shall not occur or recur. In addition to the hygienic measures I have suggested, I most earnestly advise a painstaking search for the drug which the individual you are treating needs to restore that equilibrium and elasticity of the vital forces, the harmonious action of which is health. I wish I could tell you how to find this blessed remedy quickly, easily and safely, but I know of no path which leads to it other than that of close observation and patient study.

And if you find the indicated remedy, meaning thereby the drug which bears a Homœopathic relation to the case under consideration, you may be disappointed if you administer this remedy and do nothing else. However powerful for good it may be in its own sphere, it cannot do everything. There are times when the system calls imperatively for iron and nothing else will take its place, but it may not bear a homœopathic relation to the case. Quinine and strychnine in appreciable doses are at times curative agents of great value, and I know of no reason why we should not use them and give thanks that we possess weapons so powerful to combat disease. Catarrh not infrequently follows an acute disease such as measles, scarlet fever, grippe or diphtheria, and I have with benefit used iron, quinine or strychnine, to help build up the patient afterwards and aid the system to take and assimilate more nourishment, for nutrition is the foundation of all progress in such cases. I have usually given these remedies one at a time and tried to individualize them, whatever the dose. I used formerly to despise iron and look upon its use as a rather crude routine practice, but I have greatly changed my ideas of late and believe that I have given more iron in the last three years of my practice than in the previous twenty. I regard the preparation known as pepto-mangan as one of great merit, and under its use I have seen pale, listless, tired children become rosy, active and vigorous. And why not? If the hæmoglobin of the blood is deficient in iron, it cannot carry the proper quantity of oxygen to the tissues and oxidation is imperfectly carried on, and that means malnutrition. You may pump oxygen into the lungs and pour beef juice into the stomach, but if the red blood corpuscles cannot take up oxygen the tissues will not be supplied and assimilation will be deficient, no matter how much nourishment may be taken into the stomach.

The examination of the blood and secretions by modern laboratory methods is opening a new field in medicine of the utmost importance both for diagnosis and, I believe, also for therapeutics. And it is here that the provings of our remedies are deficient. What definite knowledge have we of the effect of drugs upon the composition of the blood? When suppuration is threatened or has occurred and the system is rallying its forces to overcome it, and has raised an army of white blood corpuscles to fight the foe, until their number is increased to three or four times the size of the regular standing army, what remedy shall we give so far as the blood examination throws light on the situation? And yet we cannot ignore this knowledge which science is yielding us, for on our own principles we must base our prescription upon the totality of the symptoms. I say frankly that we shall fall hopelessly and deservedly to the rear unless we bring our methods up to the requirements of the more accurate and scientific standards of the day. There was a time when there was nothing so good in the whole field of medicine as Homœopathy, though the eyes of a great majority of physicians were closed and could see nothing in it. Prejudice closed their eyes. But that time has passed. Homœopathy, and I speak the name with reverence, has stood still, serenely confident in the universality and immutability of its law, while medicine in general in all directions has made immense strides. Let us not be blind or prejudiced, as were the physicians of a century ago, but make use of the knowledge that the passing years bring forth, carrying our beloved art of healing into the front rank of scientific methods. But, if it prove true that there are efficient means of restoring the sick to health which are different from ours, and especially if they prove to be the better, let us be broad enough and wise enough to use them and to be grateful that we possess them.

DISCUSSION.

Dr. George B. Rice. I have searched Dr. Hooker's instructive paper in vain to find some point to which I could take exception, and thus lend zest to my discussion. Most of his statements and conclusions do not admit even of argument, so evident is the truth. Under such circumstances the best I can do is to emphasize certain facts, and to possibly add a few conclusions gleaned from my own experience.

Dr. Hooker has well said, we must consider the treatment of these catarrhal children broadly and from the standpoint of a general practitioner, as well as that of the specialist. As it has been my good fortune to have had a certain amount of experience in both fields of work, I feel that such observations as I may have made are at least not governed by a narrow vision.

This matter of the hereditary transmission of disease is of exceeding interest. Today, as the author has said, we believe that only the diseased tendency is transmitted, and that an active tuberculosis only exists after infection. In exceptional cases, even the susceptibility is not inherited, or the children of tuberculous parents may suffer from one of the neurasthenias, or any disease which is the outcome of decreased resistance. So with catarrhal children, their inherited lowered vitality renders the mucous membrane of the upper respiratory tract exceedingly vulnerable, and this loss of tone is fostered by undue exposure immediately after the birth of the child, and by too much clothing and too little fresh air afterward. We must therefore begin the toughening process early. A study in recent methods in treating tuberculous disease will teach us much in this connection. We have found that vitality is not increased by bundling our patients in flannels and by keeping them in a hothouse temperature, but that on the contrary the dormant forces are roused by the use of only such clothing as shall keep the patient comfortable, and that fresh pure air day and night, is a most important requisite. Experience and close observation have taught me that the closer our patients live to nature, the more primitive their mode of life, the more rapid is their progress toward recovery. It has taken the medical profession years to learn this. Let us take pride in the fact that it was Samuel Hahnemann who was among the first, if not the very first physician, to insist upon fresh, pure air, hygienic clothing, and proper nourishment for the sick. At present, although the majority of the profession accept these truths, yet the laity are sadly in need of enlightenment, and therefore do our difficulties increase, for in many instances we cannot obtain the necessary coöperation of parents and attendants to carry out successfully the toughening process, thus arousing the inherent power of resistance. Cold water baths, friction and Jaros underclothing and pure air have been mentioned.

It has again and again been demonstrated that the benefit derived from the use of baths is in proportion to the quickness and duration of the circulatory reaction. In my experience when delicate children are under this treatment good can only be accomplished by a definite system of procedure. Tepid water should first be used, applied with a sponge followed by a brisk rubbing. Day by day, the temperature of the bath should be lowered, carefully watching its effect on the reactionary forces, until the cold sponge or shower can be given with none but good results. By increasing the skin activity in this way, the mucous membrane is relieved of a burden and sometimes recovers a normal tone without the necessity of resorting to local measures. The undergarment should fit loosely that there may be opportunity for the circulation of air between it and the skin. If the garment fits too snugly, the wool fibre is crushed down close to the body and its important office is interfered with. The garment should also be of light weight that the patient be not over burdened and over heated.

The use or non-use of cleansing solutions applied to the nasal mucous membrane must depend largely upon the nature of the catarrhal secretions. If the discharge is irritating or muco-purulent, a cleansing solution can be applied by means of a douche or syringe with benefit. Here certain precautions are necessary. The irrigating solution should be as near the specific gravity of a normal saline solution as possible. It should be alkaline and warm (unless in certain rare cases a stimulating effect is desired) and be introduced into the nose and naso-pharynx with great care.

The employment of force in efforts at irrigation should be avoided, because of the danger of forcing the fluids mixed with the secretions into the middle ear through the Eustachian tube.

Dr. Hooker has spoken very plainly regarding the use of remedies, Homœopathic and otherwise. He has called attention to the fact that the remedies which we commonly use, according to their several indications have not been proven in accordance with modern scientific methods. He implies that we have advanced in our knowledge of things medical in every way but one, and that one, of the Homœopathic materia medica.

Will it be out of place for me to call your attention to the fact that an effort is being made in every large city in the United States where we have sufficient representation, to do this very work of reproving the materia medica according to the light of modern knowledge? A concerted effort, I mean, with a definite plan and purpose. The men who are directly interested in this work are well known to most of you. These men you have confidence in, and yet, a modest appeal for funds sent to several hundred physicians to carry on the work, brought a response from only about one hundred. Do we not recognize the need of greater accuracy in prescribing drugs? Have we not every one of us said again and again, "Oh, for a reliable, trustworthy materia medica?"

Ladies and gentlemen, we can construct one for our successors if not for our own use by giving a little money, evincing a little interest, and by this means showing loyalty and support to these physicians who are trying to carry on this mighty task. Then will our cause receive the support it deserves, and our materia medica meetings will be well attended by an enthusiastic body of physicians.

In prescribing for these catarrhal children I am a firm believer in the value of our Homœopathic remedies, but I believe their value would increase ten-fold could we but know more exactly our drug effects. Until then we must use all measures which experience has taught to be of value.

Dr. Carroll C. Burpee. There seems to be very little to say regarding this paper, which is so complete, and which we have all enjoyed so much.

There are a good many of these children. I do not believe that it is entirely from lack of common sense. Very often it is, but not always. In the first place a child is a defenseless being. It cannot choose for itself, it cannot tell always about itself, what it wants or what is the matter with it. It must submit to all the latest improvements. Some mothers try every new food as it comes upon the market. If the window is open and a little fresh air is coming in, the grandmother must close it. Many families have very little fresh air in the house. You go in and find every window in the living room closed. Consequently, these children are predisposed to catarrhal troubles. Then they are dressed too much, have far too much clothing on. At the Dispensary one day there was just such a child. It was their first and only child. In all there were 23 different thicknesses over that child's abdomen, and 17 safety pins. It is no wonder they have catarrhal troubles. I think too much cannot be said about proper clothing, and hygiene in regard to bathing. I believe that if, in troubles like scarlet fever and diphtheria, we would use the nasal douche, preferably distilled water, thoroughly cleansing the nostrils, we would prevent a great deal of trouble. We should also instruct the parents to see that their children breathe through the nose. As far as remedies are concerned, Homœopathy runs through my blood; I was brought up in it and have grown up in it, and I do not believe there is anything better than Homœopathy.

Dr. Edward B. Holt. I believe that there is too much and too hard blowing of the nose, and that this will cause catarrhal troubles. Also that there is too much cleansing of the nose. I believe there is too much of this altogether.

Dr. Ellenwood B. Coleman. After hearing Dr. Burpee speak of the dressing of children it made me think that the Gertrude suit was not used much round here. I believe if more children were dressed correctly there would be less of these troubles.

Dr. Fred S. Piper. The functional activity of the skin has been spoken of as a factor in keeping the children well, and there is another function which is analagous and very important, it seems to me, and that is the free excretion of waste material through the kidneys. It has been my observation that Hydrastis has a most beneficial influence in these troubles. How much it applies to children my experience would not serve very well, but in adults I am sure it is worthy of consideration.

Dr. Edward B. Hooker. I am glad to have a word in closing this discussion. I wish to emphasize particularly, after going through the hygienic and local treatment, the indicated Homœopathic remedy. Nobody is more anxious than I to find that. I started out with the idea of jotting down a remedy here and there, and its indications. I did not trust my own knowledge, so took down a materia medica and made a little drug picture, but I found that I was simply talking out of the materia medica, therefore, I thought I would not bother with that, but let you do it yourselves. Then I emphasized the fact in my paper which I wish to emphasize again, and that is, be you ever so good a prescriber, if you pick out your indicated remedy and give that and stop there, you will be disappointed, for the road to health is a circuitous one, and they must all pull together.

Now as to spraying and douching the nose, I said particularly that the healthy mucous membrane could take care of its own foes, but it is the diseased membrane that needs help. If you are in a normal condition these things will be taken care of. I had an illustration of what a combination of measures would do the other day. A boy 15 years old used fifteen handkerchiefs a week. I examined him carefully and found hypertrophic catarrh, and a rather small compact pile of adenoids. I picked him out a remedy, and gave him Dobell's spray. He came back in a month with hardly a vestige of the catarrh left, and in a month that boy was down to the normal use of the handkerchief. Now I do not believe there is a single remedy that can do as much as the combination of the cleansing and the remedy. I do not want to say anything against the indicated remedy, but look over the whole field, do not look at one only and stop at that.

PURULENT CONTAGIOUS OPTHALMIA NEONATORUM.

BY JOHN H. PAYNE, M.D., BOSTON, MASS.

Among the diseases incident to infancy this holds a prominent place in its malignancy and direful results. It is claimed that at one time a very large percentage of blindness in the world was due to this cause alone, the estimate being as high as one-half, but this has been greatly reduced of late years, since the discovery of the gonococcus by Neisser in 1879 as the inducing cause, by attention to cleanliness, and by prompt measures of disinfection. It is my purpose today to direct your attention to certain measures of prevention, and to present my views as to the most successful method of treatment, should by chance an ill wind waft such cases to your shores, hoping thereby to arouse sufficient interest to provoke discussion and to lead to an expression of individual opinion; and first I will say that this disease is a perfectly harmless one unless it is allowed to attack the cornea. It does indeed leave an annoying hypertrophy and hyperæmia of the conjunctiva in many cases long after the army of gonococcus microbes has been conquered, but if the cornea remain intact no obstruction to the vision will result, and the case eventually recovers completely.

It must not be inferred from this however that any measure of prophylaxis or of vigorous treatment after the inception of the disease can be neglected, for those who have seen such cases in their intensity will never forget the fierce malignancy of the attack, and the appalling picture of the enormously swollen and discolored lids, the profuse purulent discharge, the eyes appearing like enormous abscesses, and the rapid deterioration of all sight if the cornea become involved in the process. These cases might well be termed "fulminans." Recognizing the necessity for prevention in all cases, and the extreme uncertainty in results if the disease be allowed to gain the least headway, Prof. Credé of Leipsic established a routine treatment by nitrate of silver in lying-in hospitals, with the reported results of an astonishing reduction in percentage. To quote from Dr. Barnett, "previous to the introduction of his method the percentage of opthalmia neonatorum in cases of parturition ranged, in various lying-in institutions, from 19 to 4. Now in those institutions where it is promptly and thoroughly carried out it does not exceed 0.2, and even this can usually be attributed to some neglect or carelessness on the part of the attendant."

Credé's method is as follows: — As soon as the head of the child has appeared, wipe the face and eyes with aseptic gauze, open the lids and drop one drop of a 2% solution of nitrate of silver directly on the cornea. The reaction is frequently very great, and the pain appears to be severe, and although the percentage of cases is said to be much reduced thereby the method is not entirely without danger to the corneal tissue, as it has been asserted that frequently leucomatous opacities remain. As I understand it, this method was adopted in all cases of parturition indiscriminately, whether infection was suspected or not; but, as in foreign lying-in hospitals such a condition could be fairly presupposed in nearly every case, the necessity for some measure is apparent. In private cases such treatment would be inadvisable unless a positive source of gonorrheal infection had been previously disclosed by several successive microscopical examinations of the vaginal discharges from the mother — therefore just previous to confinement it would seem not only desirable, but a necessity, to make such examinations in every case, and to be prepared to adopt such treatment of the child's eyes as is demanded by circumstances, remembering that neglect may be followed by complete and hopeless destruction of all sight in twenty-four hours. The method that I have found most efficacious is as follows: — As soon as the child has been safely delivered, its eyes should be cleansed rapidly and thoroughly with lukewarm sterile water applied with aseptic absorbent cotton, giving special attention to the canthi, external and internal, and the lid margins, and then the whole eyeball flushed way back to the retro-tarsal folds with a liberal douche of warm salt and water, a teaspoonful to the pint, and the eyes left to dry of themselves. This should be adopted as a routine treatment in all cases of child birth. It will not be sufficient to wet the lids and to squeeze this solution from absorbent cotton on to the eye, or to squirt it at it from a medicine dropper, as both of these measures will utterly fail to reach the most important of stragetic points, the retro-tarsal folds, neither will it be safe to use an instrument that might injure the cornea, as I have already warned you that any abrasion of its surface invariably leads to destruction of its tissue in the presence of the all conquering gonococcus. The instrument that I have used and have found all sufficient is the one that I hold here before you, and that is a modification of one that I had seen used in De Wecker's clinic in Paris for douching all eyes previous to surgical operations. It is merely a glass tube of convenient diameter for manipulation, flattened at one end for the distance of an inch so that the stream of fluid may emerge from it as a thin, broad band, and it is curved on the flat to an angle of some thirty degrees, its edges being carefully rounded and finished so that they are perfectly and absolutely smooth, and so free from danger to the corneal tissue. This is to be attached by its other extremity to the rubber tube of a fountain syringe, and the flattened extremity introduced under the upper lid near the inner canthus, and, after the stream of fluid has been turned on, it is to be swept completely around and under the lids, both upper and lower, back and forth, until a thorough and undoubted cleansing of the tissues has been established. No foreign substance can withstand the impetuous flow of such a douching unless perchance it is lodged in the tear ducts to emerge later. To guard against this, I have been in the habit of repeating the same treatment some hours after the first, and believe that even a third repetition is not unwise. If prophylaxis alone is desired this method is sufficient. If, however, the presence of gonococci is suspected, it is well to supplement each douching with two drops of Formaline solution, 1 to 1000, dropped inside the lower lid at the outer canthus and left there. All solutions should be at a temperature of one hundred degrees.

This little apparatus that I have described is cheap in price and is capable of thorough cleansing and disinfection at a minimum expenditure of time, and I most cordially recommend it to all practicing physicians who have charge of labor cases. Be it remembered that a case of infection may develop into activity inside of twenty-four hours, therefore the necessity for prompt and thorough cleansing at the first possible moment after the advent of the child into the world is apparent. Should, however, a case be allowed to drift into an active state, then the problem presented is one of the greatest concern, as the uncertainty of treatment by all known methods is undoubted.

I have been much interested in a recent discussion by many oculists of a paper written by Dr. Adolf Alt, entitled "Blennorrhœa Neonatorum," which discussion has been published in the June 1901 number of the American Journal of Opthalmology, edited by Dr. Alt. The discussion centered entirely around the treatment of such cases, and was participated in by eleven oculists, and, although many different local disinfectants were suggested, the consensus of opinion with but two exceptions was decidedly against strong nitrate of silver or any strong escharotic at any stage of the disease, but thorough and frequent cleansing, preferably by warm normal salt solution, was advocated. Several had found satisfaction from the use of a moderate strength solution of Protargol. The normal salt solution was advocated by Dr. Dudley S. Reynolds, of Louisville, Ky., who led the discussion, because, as he said, " the normal conjunctiva has always upon its surface a solution of this salt. If it be deprived of it irritation follows." He also said at this same time, " if you use a solution of chloride of sodium, five to ten grains to the ounce, and use it by irrigation every ten to fifteen or twenty minutes, according to the urgency, as indicated by the pus formed, it will cure the worst case of gonorrhœal infection."

While my experience convinces me that this is a too radical statement, yet, I can say that in frequent douchings by the salt solution, not so often as to fret and weary the child, but used at intervals of one to two hours, we have the most powerful ally in our warfare upon the gonococci that has yet been used. Whereas mild solutions of a germicide may be efficacious in the first stage before the bacteria have greatly multiplied, later, the strong solutions that would be needed are so strong as to injure the cornea, and therefore should be avoided, and reliance placed on cleanliness by douching. I have seen strong solutions of silver nitrate and of Protargol start into excessive activity, cases that appeared to be under control by the milder methods. The impatience of the attending physician was responsible for it. Therefore I say they are worse than useless, and at all times should be avoided. I have recently had under simultaneous observation three cases that developed within a few hours of each other and that were isolated together. These cases illustrated to perfection the remarks that I have made above. They were each given silver nitrate in strong solution at the first appearance of trouble, and before I had seen them, but without decided benefit. Case No. I was an illegitimate child and no history was obtained from the mother. The right eye was infected, the left showing a little irritation and slight discharge of serum, while the right had considerable discharge of pus, a microscopical examination of which, by Dr. Watters, revealed the diplococcus of gonorrhœa. The silver nitrate was continued for several days, when a singular thing happened, the left eye cleared up so that the irritation and discharge ceased, and we were enabled to seal it up with oiled silk covering, whereas the right discharge *increased* to such an extent that we were obliged to discontinue the applications of silver, there having appeared an opacity of the cornea, and to substitute a mild solution of Protargol, with the result of a complete subsidence of all symptoms in a few days, and, after several negative microscopical examinations, we were able to discharge it as cured. This case had Merc. sol. internally as a part of the treatment.

Case II was also treated at the same time to applications of silver in same strength, and to Merc. sol. internally, but without any apparent effect, as the case became steadily worse. The mother's history was as follows : — Profuse leucorrhœa, yellowish in color, some bladder disturbance, frequent urination with considerable burning. The presence of gonorrhœal infection was suspected, and a specimen of the vaginal discharge was saved for microscopical examination, which revealed the diplococcus of gonorrhœa in large numbers. Silver nitrate solution was continued for a few days, when, it being evident that nothing could be expected of it, and opacities appearing on both corneas with positive signs of ulceration of the right, Protargol, one per cent, was substituted with hourly douchings night and day. This was inefficacious, and the right ulceration spread in spite of all that we could do until the cornea became perforated. Later Formalin, one to three thousand, was applied with varying results, the discharge at times nearly ceasing, to suddenly break out into unexpected violence and to just as suddenly cease for a time. This warfare was continued many days until finally it seemed best to abandon all strong germicides and to substitute hourly douchings of salt and water. The result was that in two days the discharge almost entirely ceased, so that the pathologist was enabled to report three negative examinations in three successive days, and the case was discharged as cured.

The treatment had extended over a period of one month, with constant, most of the time hourly, treatment by douches and applications. I will say in this case, that through it all each application of the astringent, silver nitrate, was followed by a temporary increase of the discharge, becoming more and more noticeable toward the last until they were abandoned entirely.

Case III, the most stubborn of all, was an undersized, puny, jaundiced infant, whose mother had a violent cystitis, and a yellow vaginal discharge that was pronounced gonorrhœal by the pathologist. Within twenty-four hours following birth a discharge was discovered in the right eye that proved to be gonorrhœal. The left eye being clear was immediately sealed by a square of oiled silk, plastered down at its edges by collodion, its lower edge being left free for ventilation. Through this transparent silk we were enabled to keep watch of the eye to detect the first signs of trouble, and we were also enabled to douche with much freedom the right eye without fear of driving the infectious material into the left. The discharge for a few days was peculiar in that it appeared to be a transparent bright yellow serum, that stood along the lid edges and corners in drops, not at all the characteristic pus appearance. This eye received silver nitrate and Merc. sol. as the others, and frequent cleansing. After five days of this treatment, there being no marked improvement, Protargol, one per cent. was substituted three times daily and the cleansing continued as before. An apparent improvement followed this until for three days the eyes were absolutely free from discharge, and we were considering the advisability of pronouncing her well, when without warning the pus appeared in the right eye in large quantity, and four per cent. Protargol was used with same result of temporary cessation of discharge. To make a long story short, we fought that case with Formalin, one to five thousand, later one to one thousand, and still later one to five hundred, with an intercurrent attempt at douches of Peroxide of Hydrogen, one part to four, which immediately and emphatically aggravated all symptoms, even causing a large and tense swelling of the lids, until we were driven to an abandonment of all these measures, and to a substitution of normal saline douches with three daily instillations of permanganate of potash, one to four thousand, which soon controlled the discharge so that three negative cultures were made at daily intervals, and the case sent home as cured.

You will ask, how about the Homœopathic remedy, and why was that not given ? I will answer that Merc. sol. seemed the only thing indicated, and who can say that it was not an important factor in the cure of the first case? Only objective symptoms can be obtained, and they are mostly so meagre as to give little foundation for close Homœopathic prescribing.

These three cases then stand thus: —

Case I. — Made worse by silver nitrate, and cured promptly by occasional weak Protargol, and by Merc. sol. and frequent douchings.

Case II. —Worse under silver nitrate, and still worse under Protargol, and cured by occasional Formalin and by frequent douchings.

Case III. — Aggravated by silver nitrate, temporarily cleared by Protargol, and finally conquered by warm normal saline flushings and by permanganate of potash.

You may take your choice of remedial agents here, but as a lesson two things seem very clear: one, that strong nitrate of silver solutions will more frequently aggravate than ameliorate, and are therefore to be avoided, and the other, that in strict and persistent attention to cleanliness by saline douches thoroughly applied, we have a most powerful enemy to the diplococci of gonorrhœa, and they are therefore to be commended.

As a parting advice I would strongly advocate careful microscopic and culture examinations of the discharge at various periods, and a negative result in three cultures on three successive days before unsealing the well eye, and discharging the case.

To quote from Dr. Wilson in the Buffalo Medical Journal : —

"You may wash, you may burn,
You may drug if you will,
But the biscuit-shaped bug
Will be with you still."

DISCUSSION.

Dr. George A. Suffa. On many points I am fully in accord with the writer of the paper. I certainly agree with him that it would be an ideal method to examine all vaginal secretions before parturition, and to institute treatment to eliminate gonococci if present, thus striking at the root of the evil and preventing infection. I also think it would be a good thing if some public spirited person would furnish a fund to establish a suitable place where these microscopic tests could be made, as well as a place to accept and treat these cases. I also agree that thorough douching as recommended, both as a preventive and in the treatment of an active case, is the most potent factor in treatment, be the solution whatever it may, so long as it is non-irritating.

If I understand the author correctly he prohibits the use of nitrate of silver at all times, both as a prophylactic, and in treatment. At least in doubtful cases I believe it is wise after first cleansing the lids, and douching the cul-de-sacs as recommended, (which should always be first, both as to time and importance) to use nitrate of silver as advised by Credé, even though it should cause some irritation, for we have good authority that no permanent harm is caused by its use in this way, and that it has greatly reduced the percentage of cases. Although the use of nitrate of silver is prohibited in the treatment of active cases, the author leaves us in the dark in the report of the three cases as to what way, what strength, how often, and at what stage, the drug was used. These are all strong factors, and would be given strong weight in my conclusions on this opinion. It should also be borne in mind that this disease, like all inflammatory diseases, has various stages and is self limited.

I was very much interested while reading the mentioned discussion, of our old school brethren, in regard to the use of this drug, and was pleased at the change of front, for I have long felt that in this, as in many other diseases, their treatment is too severe, and that by hampering nature less, far better, quicker and greater results could be obtained. Yes, I cannot deny that we as Homœopathists have often leaned too far the other way, for in diseases of this class, which have a strictly local action, local applications are our mainstay in combating and curing the trouble.

In regard to the little dropper which was passed around. That appeals to me very forcibly as a means to be used at the time of childbirth, but afterwards I should say the use of it must be difficult.

Dr. George R. Southwick. In the lying-in hospital at Vienna it is the custom not only to use the silver nitrate solution as soon as the child is born, but they always had two solutions, one of nitrate of silver, if I remember rightly it was two grains to the ounce, and they also had a solution of common salt. They used about two drops of silver nitrate, then the eye was flushed out with common salt solution in order to neutralize the action of the silver nitrate. In reference to this we must bear in mind some experiments recently carried out which have proven the upper part of the vagina to be free from pathogenic germs. It is only in gonorrhœa and where the natural forces have been reduced that the integrity of the secretions is lost. Under these conditions the only safe thing to do is to use those precautions which have been mentioned. It has been my custom to wash out the eyes of babies with boracic acid and water, flushing them out as thoroughly as possible.

Dr. David W. Wells. I have listened to the paper with a great deal of pleasure, and there is but one point I wish to mention, and that is I fear the general practitioner after having had a case of gonorrhœal ophthalmia fails to realize the damage done to the eye, especially if it be the eye of a child. The damage is not usually seen except by reflected light. There is then discovered in the cornea a great deal of blurring from the connective tissue that is deposited instead of the regular corneal tissue. When the child goes to school it is discovered that the sight is defective, and when brought to the oculist the true nature of the defect is found to be the damage done to the cornea by the gonorrhœal ophthalmia.

I have taken some pains this summer to collect some statistics as to what is being done in Paris and London. There seems to be a great difference in the minds of different oculists as to the damage done to the cornea by silver nitrate. Dr. Holmes Spicer, of London, and his colleagues, believe that a two per cent. silver nitrate never injures the cornea. Dr. Spicer told me of a case where he had known a five per cent. solution used by mistake to cause a good deal of cicatrization of the conjunctiva, but the cornea was unaffected. In another case a ten per cent. solution was used. This not only injured the conjunctiva, but caused a complete sloughing of the cornea.

I visited the London Lying-in Hospital on City Road. The matron, who had been there seven years, told me that until the last six months the treatment had been the universal use of a 1-2000 bichloride solution. During six months the two per cent. silver nitrate solution had been used in every case. At the St. Bartholomew Lying-in Hospital Dr. Jessopps uses the silver nitrate solution, so that London is pretty fairly committed to the Credé method. They use no neutralizing saline, and no washing out of the silver nitrate. At the London Lying-in Hospital the matron told me she was positive there had not been a single case of gonorrhœal ophthalmia during the last year, and that in previous years they had been very rare. The number of births in 1900 was 611.

Now opposed to this is the testimony of Dr. M. A. Pinard, of the Maternity Baudelocque in Paris, who says that previous to 1890 he had used the Credé method, but had discontinued it on account of the effect upon the cornea, and on account of the medicamentous conjunctivitis which it occasioned. Since that time he has used successively lime juice five per cent., citric acid five per cent., and latterly permanganate of potash 1-1000 solution. The statistics cover a period of ten years, and there were about 20,000 births, and the percentages under these various treatments are practically alike, viz.: a little over one per cent.

At the Boston Lying-in Hospital I am informed by Dr. Jack, the house physician, that the Credé method of using the silver nitrate was given up five years ago, and that Protargol two per cent. was substituted. He does not state why the silver nitrate was discontinued, but it is to be assumed that there were some unpleasant symptoms resulting. The average number of births annually in this institution is 675, and the percentage of gonorrhœal ophthalmia is one and three-tenths per cent.

All of these various methods showed decided improvement over the let alone method, but there is so little difference in the percentages whether lime juice, citric acid, silver nitrate, permanganate or Protargol be used, that one finds it difficult to select any one method as a specific, and it may be that simple cleanliness reaching the upper and lower cul-de-sacs by using the pipette which Dr. Payne has exhibited, may after all be the best treatment.

REPORT OF THE COMMITTEE ON GYNÆCOLOGY.

WILLIAM F. WESSELHOEFT, M.D., *Chairman*.

I. The Prevention of Pelvic Disorders, HELEN S. CHILDS, M.D.
Discussion opened by Florella Estes, M.D.

II. A New Operation for Cystocele, JAMES B. BELL, M.D.
Discussion opened by Carl Crisand, M. D.

III. Diagnosis a Necessity in the Treatment of Pelvic Diseases, WINSLOW B. FRENCH, M.D.
Discussion opened by Clara E. Gary, M.D.

THE PREVENTION OF PELVIC DISORDERS.

BY HELEN S. CHILDS, M. D., JAMAICA PLAIN, MASS.

Prevention of disease in any or all departments of medicine is the aim of the physician of today; and not only physicians, but the laity as well, are being educated to see more and more the importance of exercising care both in public and private to prevent contagion. But while statistics are showing a marked decrease in the number of cases of consumption and kindred diseases, what can be said in regard to pelvic disorders?

Our dispensaries and hospitals are filled with cases of this character. Many of these patients, by a little care in the past, might have been spared their present condition. Surgery has achieved many brilliant victories in the cure of pelvic troubles, but is not prevention better than cure?

The wives and mothers of the future should begin their preventive treatment at or before the age of puberty, and much responsibility rests with the family physician, who neglects his or her duty in this most important respect. Upwards of 5,000 cases of women's diseases were treated in the Dispensary during last year, and in making a careful survey, we find uterine displacements the most frequent cause. There must be some reason for this condition. Our girls as they are changing from childhood to maidenhood, and the menstrual function is being established, frequently enter upon that stage in absolute ignorance of what nature expects or demands of them. The mode of living, in many instances, has not prepared the girl to enter upon active menstrual life in a healthy manner. School, dress, games, exercise, diet, all bear a part in cause and effect. Many childish games if wisely enjoyed would be of benefit, while the same, without proper guidance, become injurious. Take, for instance, the skipping rope. The active exercise of arms and chest is excellent, but when a young girl tries how many times she can jump on a brick pavement without rest, she gains no benefit, but is storing up trouble for the future.

I have a case in mind in which double inguinal hernia followed that pastime, and as I have followed the case in the girl who became a wife and mother, a retroverted uterus has been found to be the cause of painful menstruation; while the weakened uterine ligaments failing to properly support the pregnant uterus, were a cause of distress and a menace during the entire period of gestation.

The present school system, with seats and desks in many cases out of proportion to the size of the pupil, compelling cramped positions from which we find lateral curvatures developing, with consequent deformity of hip and shoulder causing tilting of the pelvis, is altogether irrational. So, also, is the gymnasium in which all pupils, without a certificate from a physician, are expected to take the same exercise with equal advantage. The girls are excused from active work during menstruation, but is not a day or two previous to the flow quite as important as at the actual time? There must be less congestion and weight after the flow is established than during the days preceding. Anæmic girls cannot take the prescribed course of gymnasium work without positive injury. They need exercise, but of a different character, and in the open air, where our gymnasia belong. Fifteen minutes in the open air would do more good than can be possibly gained under the present arrangement, viz., three-quarters of an hour, twice a week and always indoors, inhaling the dust of ages. Why not employ the recess hour in some form of physical exercise with suitable apparatus, having the public playground in the school yard, with skilled instructors, thereby establishing healthy circulation, diverting the blood from the tired brain to other parts of the body?

I do not believe that excessive study, so much as faulty relaxation, is the cause of so many high school girls breaking down before the course is completed. If there is a place on earth where the thoughtful woman physician belongs, it is in charge of girls' schools. Let them see that the pupils' shoes are stout and large enough; regulate their games; prevent them from sitting five hours in damp clothing; advise as to the matter of plain, nourishing food, and time in which to eat it; counsel daily bathing, etc., and a start will be made in the line of prevention.

The women we are called upon to treat for pelvic disorders are largely among the so-called middle or higher classes. Very few, comparatively, come from the lower class. The women who have large families, doing their work up to the hour of labor, and many times attending to their washing afterwards, are not, as a rule, the women who are troubled with uterine displacements. May not the idea that a woman must keep the recumbent position for two or three weeks following labor, be a cause for this? The heavy uterus can better recover, and regain its normal position, by securing free drainage, which can better be obtained by assuming the upright position at suitable intervals. Perhaps the present custom may be responsible for so many congestions and displacements following labor.

Women living sedentary lives, eating irregularly and unwisely, with consequent evils, are inclined to attribute all disturbance to the uterus. Let us divert their attention from the pelvic organs; give them some healthy work, and recreation in the open air. Send your pelvic patients to the swimming pools, instead of sewing societies; prescribe horseback riding in the proper position, not with body twisted, trying to sit erect with the shoulders in one line and the hips in another, but astride, where even support can be given the pelvis by feet and knees, thus securing good action of the bowels, and in this way relieving pelvic congestion.

Over heated houses, impacted bowels, improper elimation, and often, too often, too much local treatment, may be the cause of so many pelvic disorders.

DISCUSSION.

Dr. Florella Estes. Dr. Childs has treated the subject so fully that I have very little to add. We must agree with her that too much of certain exercises during childhood, especially near the age of purberty, may be the cause of disease later in life. Too long sitting in cramped and unnatural positions may produce harm, as has been said. Dr. Childs has said that pelvic disease is often caused by ignorance of mothers. I would like to say that there are many helpless invalids today who could say that their troubles could be traced to lack of instruction from mothers at the beginning of menstrual life. As this neglect of instruction is often from the ignorance of mothers, the cure is evident — the education of present and future mothers. When a woman is going through a period, when the ovaries are congested, and in a high state of nervous excitability, it is common sense that they should rest, but in the present state of society a woman is obliged to work for her living, either as a housewife or otherwise. We hear a good deal of the degeneration of women, but certain it is that this must have begun a good while ago. Nineteen hundred years ago we find proof of this. I have often thought that nature never intended woman for a laborious life, but that evolution has forced her into a position that she is physically unable to follow. Dr. Childs has spoken of constipation as a cause of pelvic disease, which is very reasonable, the impacted feces pressing on the organs and causing congestion and inflammation. I believe that with women it is often more a habit than a disease. I think we may take a lesson from the old school whose concern for the bowels is proverbial, although we need not adopt their methods.

Doubtless one of the most common causes of disease in women is the corset. If women would take as much pains in regard to their corset as to their shoe, I believe it would be harmless and a comfort. I cannot agree with Dr. Childs that there is more disease amongst women of the middle and upper classes than of the lower classes. From my observation, limited I admit, I think that women of the lower class are as often diseased, but they are so inured to pain that they complain less. Women who do laborious work take their pain as a matter of course and say little about it.

A NEW OPERATION FOR CYSTOCELE.

BY JAMES B. BELL, M.D., BOSTON, MASS.

I would not think it worth while to direct your attention to a minor plastic operation, had I not found that it assumed the more importance the more I studied it, and that the present accepted methods had made little or no progress since Dieffenbach in 1830, in spite of the great names associated with various ingenious modifications, and attempts at getting improved results.

Sims, Emmet, Thomas, Schroeder, Hegar, Stolz and many other able men have thought the subject worthy of careful study and attention, and this may be my justification for asking you to do the same.

For the sake of brevity and simplicity I will consider it apart from other associated conditions, such as prolapsed uterus and torn perineum and their surgical treatment.

I. Description.

"Cystocele, or vesico-vaginal hernia, consists of descent of the bladder towards the vulva so as to impinge upon the vaginal canal. When the anterior wall of the vagina, which is closely adherent to the bladder, the base of which it in part sustains, ceases to afford the required resistance, the bladder, partly under this influence and partly under that of traction, descends and forms a small pouch in the vagina. This gradually increases until at last it forms a decided tumor which protrudes between the labia majora.

The pouch thus formed becomes filled with urine which in the ordinary act of micturition cannot be evacuated from its being contained in a species of diverticulum.

This undergoes decomposition, free ammonia is formed and a painful and purulent cystitis set up."—*Thomas.*

"The indications for anterior colporrhaphy consist not only in the annoyance which the presence of an ovoid protrusion between the labia gives the patient, but in the distress which the sacculation and decomposition of residual urine causes, and finally in the influence exerted upon the position of the uterus."—*Munde.*

II. INDICATIONS.

The obvious surgical indications are here, to narrow the anterior vaginal wall and to restore the original support to the base of the bladder.

III. METHODS.

It would be too tedious to describe all the methods and modifications that have been devised and recommended, but they all consist in some form of denudation of the anterior vaginal wall and of uniting the edges of the wound by various forms of sutures.

IV. ACCEPTED METHODS.

The general practice has, I think, become practically narrowed down to two methods, viz., that of Dieffenbach and that of Stolz.

The first consists in removing a sufficiently large oval portion of the front wall of the vagina, and extending from the bulb of the urethra, nearly to the cervix uteri, and then uniting the edges of the wound with continuous catgut sutures.

The second or "tobacco pouch" method consists in making a circular denudation of the same with a purse string suture of silk or catgut inserted around the edge, in the mucous membrane, with each end threaded in a curved needle.

The suture is finally drawn tight and tied at the lower end of the wound, and, if of silk, is removed about the eighth day.

The former method is one most frequently practiced, although the latter is recommended by excellent authotities, by Pozzi, Baldy, Munde, Garrigues and Mann.

V. RESULTS.

The results of all these operations are often doubtless good, but if so it is more often due to other good work upon the perinæum or uterus, reinforcing the same, rather than to the entirely correct principles of this operation.

Thomas says, "That the operation of elytrorrhaphy has effected excellent results there can be do doubt. The journals of the day contain numerous reports of cases successfully operated upon by slight modifications of the methods here described.

Its disadvantages are that it is a very tedious process, difficult of performance for one not familiar with this kind of surgery, and liable to failure even if carefully and thoroughly accomplished. Further than this, it is unquestionable that in a large number of cases expansion of the vagina recurs in time in spite of it."

Scanzoni goes so far as to say, that "the operation always fails."

We should note however here, that Scanzoni's observations were mostly made before the present aseptic healing of wounds.

Munde says, "The object is so to narrow the anterior wall that it will give permanent support to the bladder and prevent the steady pressure of that organ from forcing it down into the vagina. To secure this object various methods have been devised most of which are open to the same objection of failing to furnish a cicatrix which will not stretch in time and *allow the old prolapse to return.* The open horse-shoe of Sims, and closed horse-shoe of Emmet, the oval denudation of Dieffenbach, and numerous others down to the present day are all open to this same objection, *and the ideal operation for cystocele has still to be invented.*"

The radical defects of the oval method are two.

First, the permanency of the result depends largely upon a cicatrix.

The popular opinion among surgeons that a cicatrix is stronger than normal tissue, as exemplified in McBurney's operation for hernia, was never based upon sound reason or careful observation and has no weight now.

The tendency of a cicatrix is to stretch under pressure and tension.

Secondly. While the oval operation shortens the vaginal wall crosswise as is desired, it lengthens it longitudinally, and thus lessens the support to the degree that an oval wound is longer when closed than when open, and the longer the wound the more strain upon the cicatrix.

The Stolz "tobacco pouch" operation, however, eliminates these factors to a great degree and is by far the preferable operation.

If primary union occurs the cicatrix is very small, and more in the nature of a firm button of tissue, and the vaginal wall is shortened in all its diameters so that the tension on the cicatrix is reduced to the minimum.

I formerly practiced this operation more frequently than the oval, until I introduced the one I will describe.

The Stolz operation has however serious faults. The irregular and puckered character of the wound prevents usually complete union by first intention, thus prolonging the convalescence and in one case of mine, there occurred from this cause a late secondary haemorrhage.

The shortening of the diameters of the anterior vaginal wall by this operation is apt to be too great in the longitudinal direction, drawing the cervix downward, if great care is not taken to avoid this by the form and extent of the denudation.

VI. THE NEW OPERATION.

The principles as newly applied to this operation are two, the flap splitting and the conservation of tissue.

The ends attained are two, the elimination of the cicatrix as a factor of support, and the substitution of a strong ridge of normal tissue for the same.

VII. DESCRIPTION.

The operation is performed as follows: The anterior wall is put upon the stretch by a bullet forceps applied low down in front and another just below and in front of the cervix.

With a scalpel an incision is made the whole length between them through the mucous membrane. With the tooth forceps and scalpel the flap is dissected up on each side for a third of an inch, after which the fingers will readily separate the bladder wall from the mucous membrane as widely as may be needed. The form of the denudation is of course the oval one, only none of the mucous membrane is removed.

When the dissection is completed the two flaps are united by mattress sutures of No. 3 chromicized catgut. These are inserted close to the base of each flap and are placed from the front, backward about one-half an inch apart. If the flaps are an inch and a half wide these stitches are carried through again a half inch nearer the edge.

In order to be sure and make this clear, I will go over it again. With a medium sized Martin needle, the left flap is pierced at its base from right to left, while the flap is held up strongly with the left hand, and about three-quarters of an inch above the lower end of the incision. The right flap is now put upon tension in the same way and the needle carried across inside the wound and entered at the junction of the flap with the bladder wall. After being drawn through, the needle is now carried back through both flaps one-half inch nearer their edges, and finally the suture is tied upon the same side upon which it entered. This process is repeated every half inch until the cervix is reached.

When all the stitches are placed they are tied firmly and the edges of the flaps are carefully united by a continuous suture of No. 1 chromicized gut.

The immediate result is a rather unsightly cox-comb or chicken-breast-bone kind of affair, but by the time the union is complete, the projection is less prominent and it gradually assumes the form of a firm strong rib of tissue like a welted seam, the keel of a boat, the web of a steel beam or railroad rail, or the bracket-like truss of a Cantilever bridge and it has much the same mechanical value and effect.

By the time the parts are fully healed and the patient ready to go home, the projection is in no way obtrusive, and never interferes at all with any functions of the vagina.

As far as I have been able to observe the after results, and that is more especially of course in private cases, they have been entirely satisfactory and permanent. I believe that this operation alone fulfills the indications as expressed by Hegar and edited by Grandin when he says, "We must endeavor to give this wall a certain degree of firmness, else the flabby vesico-vaginal septum even after restoration of a good sphincter apparatus is apt to relax as the result of vigorous action of the abdominal muscle, or notable distension of the bladder." I hope I now have proved three things.

1. The importance and necessity of a good operation for cystocele.
2. The non-existence of any such operation among those heretofore practiced.
3. The possibility and perhaps probability that the operation here described may meet the need.

DIAGNOSIS A NECESSITY IN THE TREATMENT OF PELVIC DISEASES.

BY WINSLOW B. FRENCH, M. D., BOSTON, MASS.

The title of my paper has been suggested to me by observations made at the Massachusetts Homœopathic Hospital, while making entrance examinations of patients for the past three years. A large majority of the surgical cases there treated are suffering from pelvic disorders, which as a rule are of long duration. Our examinations have so often revealed a faulty diagnosis on the part of the physicians sending the cases, as to cause us often to remark on the carelessness of physicians in their treatment of pelvic diseases. As these patients come from so many States, sent by physicians, graduates of different Schools of Medicine, the causes leading to faulty diagnoses and treatment cannot be attributed to any one physician, or the teaching of any one medical school. That a diagnosis is not always possible is true; and where symptoms are urgent, and bi-manual examination has proved insufficient, an ether examination may be necessary. In the work at the Hospital, the diagnosis has been arrived at by a series of questions and answers, coupled with bi-manual vaginal and abdominal examinations. These questions are about the same in every pelvic case, and it may be of interest to give them to you: — Name. Address. Age. Married. How long. Husband living. Children. How many. Age of youngest. Any difficult labors. Miscarriages. Causes. Number. Dates. Age menstruation began. Past history of menstruation. Date of last menstruation. Regularity. Pain. Color. Number of napkins. Character of flow. Leucorrhœa. Color. Constant or not. Headaches. Location. Periodicity. Any trouble with stomach and digestion. Backache. Constant or not. Any abdominal pain. Where. When does it occur. Any history of urinary trouble. Condition of bowels. Family history. Have you had treatment, and what. Other questions are often added, but the above are more or less routine questions. The examination of the person is then made, and normal as well as abnormal conditions recorded on the slip, and the question of diagnosis and admission considered therefrom. As a rule, chronic diseases are in a large majority; one reason, because patients will undergo any amount of medical treatment to avoid going to a hospital, before that obligation arises; another, many doctors either carelessly make a wrong diagnosis, or correctly diagnosing the case, consider medical treatment sufficient. To cure a person suffering from disease and all of its symptoms, is our duty, and not to alleviate only, except in incurable cases. All abnormal conditions of the pelvis should be corrected as soon as possible when a diagnosis is completed, that sympathetic reflex, and structural changes in nerves and other organs may be prevented. Medical treatment may and does cure many of the ills of woman. However, because of its failure in so many cases, and that such a large number come to the Hospital after long courses of treatment and with conditions, curable from the first only by surgical measures, proves that physicians are either unaware of the limited value of medicine and benefits of surgery, or that they have not the necessary knowledge of treatment of their cases. It is not my desire to give here the differential diagnosis of the diseases of the uterus and appendages, but rather to show the necessity of a proper diagnosis and treatment, and I wish now to relate the histories of several cases.

Case I. Mrs. A. F., aet. 35, married 15 years, three children, youngest aged seven years. Menstrual life began at age of 15, with a normal history until the birth of her first child, which was a difficult labor. Has headaches, backache, constipation and constant leucorrhœa. Last menstruation occurred within two weeks. Menses are regular, but painful, dark and clotted, using 12 to 15 napkins. Pain in both ovarian regions, of a burning character in left side, more sharp in right. Examination reveals uterus enlarged and prolapsed, laceration and erosions of cervix, rectocele and ruptured perineum, and endometritis. Thickened left tube and cystic ovary. Normal right ovary with tenderness in that region. Has worn a pessary, and had local treatment for years. Operation: — Removal of left tube and ovary, and bulbous inflamed appendix. Curettement and repair of cervix, rectocele and perineum.

Case II. Mrs. F. G., aet. 27. Married five years, with no children or miscarriages. Menses began at 15, are regular, but has pain in the right ovarian region with nausea and uneasiness in stomach. Last menstruation just completed, using but three napkins. The pain was sharp and colicky in character. Has had tampon treatment for prolapsed ovary for a year. Examination reveals small uterus, normal left ovary; can define a mass in right side. Operation: — Removal of an inflamed appendix adherent to a large cystic ovary and inflamed tube; both tube and ovary removed.

Case III. Miss C. A., aet. 19. Menstrual life began at 14, and menses have been scanty and irregular ever since. Has had nervous prostration and the general symptoms which go with that condition. Sharp and burning pains in both ovarian regions. Examination reveals uterus normal, but both ovaries as large as oranges. No specific history. Has had tonic treatment since she began to menstruate. Operation: — Removal of both ovaries.

Case IV. Mrs. D. J., aet. 40. Has had one child and two miscarriages, the last 15 years ago. Menses began at 15, and have always been regular, but for the last 10 years has used many napkins. Some constant vaginal discharge. Backache. Physicians have prescribed iron and given douches and send the case in as a probable cancer. Examination reveals the uterus enlarged, the cervix lacerated and eroded, and a uterine polypus. Operation: — Removal of polypus, and repair of cervix.

Case V. Mrs. E., aet. 45. Has had three children, the youngest 18 years of age. Flow normal in the past, and without much pain. For a year has menstruated all the time, worse at intervals. Backache. Dizziness. Has lost flesh. Appetite poor. Anæmic. Is sent in for currettement. Was curretted eight months ago in Maine. Operation: — Vaginal hysterectomy for carcinoma uteri.

Case VI. Mrs. P. M., aet. 33. Has had two children, the youngest seven years of age. Had menstruated every three and a half weeks since she was 15 years old. Last menstruation just completed. Complains of pain in right side, which she has had for two or three years, aggravated by walking or working, relieved by rest. Is very nervous. Some leucorrhœa. Examination revealed a ruptured perineum and laceration of cervix. Uterus in position, and ovaries and tubes normal. Was sent in by her physician for repair of lacerations and removal of right ovary. On abdominal examination a floating kidney and sensitive appendix found. Operation:—Fixation of kidney. Later, secondary operation on appendix.

By these histories, you will have observed that patients are sent to us supposedly for endometritis and may have malignant disease. More often patients are sent for repair of cervix and perineum, and while there may be beginning prolapsus uteri, consequent on the relaxed floor of the pelvis, yet badly diseased ovaries, which are more often the cause of their symptoms, have not been diagnosed by their attending physician. Again, the appendix and ovary are often confused. Fibroids, I shall not bring into my paper, as I am afraid it would provoke too long a discussion. I might speak of the many diseases commonly found in the pelvis, but instead my wish is, having shown the errors that may arise in the diagnosis and treatment of these diseases, to incite further study of each individual case. Let us learn to diagnose by exclusion, and where surgery will cure, waste no time with tampons and medicine.

REPORT OF THE COMMITTEE ON DERMATOLOGY, SYPHILOLOGY, AND GENITO-URINARY DISEASES.

ORREN B. SANDERS, M. D., *Chairman.*

I. The Clinical Value of a Urinalysis in Some of the Common Diseases,
SOLOMON C. FULLER, M.D.
Discussion opened by Edward P. Colby, M.D.

II. Treatment of Latent Gonorrhœa in the Female,
GEORGE R. SOUTHWICK, M.D.
Discussion opened by Carl Crisand, M.D.

III. Eczema in the Adult, JOHN L. COFFIN, M.D.
Discussion opened by A. Howard Powers, M.D.

THE CLINICAL VALUE OF A URINALYSIS IN SOME OF THE COMMON DISEASES.

BY SOLOMON C. FULLER, M.D., WESTBORO, MASS.

With so many good text-books on urinalysis available to the profession, it would seem a presumption to present a paper with the above title to this section. I fear, however, that most of our examinations of the urine are limited to the determination of the presence of sugar or albumen. As interesting and important as it is to the clinician to know if these substances are present, there is still as equally interesting, and many times as paramount information, to be gained from systematic routine urinalysis in each case. This fact has been impressed upon me from a review of the records of more than 2000 examinations made by me during the past four years. Often, to be sure, the results will prove negative; but you know as well as I that a negative result may have its value in arriving at a diagnosis by exclusion.

It may be taken as a truism that the mere presence of albumen does not always indicate Bright's disease, and also, though in a less degree, neither does the mere presence of sugar invariably point to diabetes. In some of the acute exanthemata, and the continued fevers albumen may be frequently found in the urine, and it has been my experience to find sugar in the urine of several cases of acute mania, which was entirely of a transitory nature, and occurring only at a period of marked excitement. On the other hand, a most advanced chronic interstitial nephritis may exist and with the ordinary tests only the slightest possible trace of albumen may be demonstrable, and too, as it quite often happens, none may be determined. There must be taken into consideration then the other constituents of the urine; how much, if any, do they deviate from their normal proportions; and also must there be determined the presence, or, absence of other organic or inorganic bodies which are detrimental to the economy. As an illustration, in chronic interstitial nephritis I now lay greater stress on the diminution in total phosphates and urea, and on the microscopical examination, to determine the presence of blood cells and casts, than on the presence of small quantities of albumen in urines of large volume and low sp. gr. The volume of the urine in chronic interstitial nephritis is not always a large one; for with heart failure it is, often times, considerably diminished. The sp. gr. will then approach more nearly the normal, the solids will be relatively normal, or nearly so, with the exception of the phosphates and urea which will be diminished relatively and absolutely. I have in mind four cases in which the 24 hrs. amount varied from 30 oz. to 40 oz., and in which albumen was present in slight trace, urea much diminished, and the phosphates considerably so. These cases later came to autopsy, organic heart lesions, (dilatations and valvular diseases,) were a feature of all of them. One case showed a marked compensatory cardiac hypertrophy, and in all of them there was a most advanced chronic interstitial nephritis.

You are too familiar with the characteristic features of the interstitial and parenchymatous forms of Bright's disease for me to dwell any length of time on their consideration. Suffice it to say that in chronic diffuse nephritis the urine is diminished in quantity and sp. gr., albumen is present in large amounts, more so in this form than in any of the others, and almost all varieties of casts may be encountered in the sediment. In addition, pus and blood are always found. In studying, histologically, a great many kidneys, I have been impressed, as others before me were, that the degenerative lesions are not confined to one class of kidney tissue. For example, in chronic diffuse nephritis while the parenchyma of the organ is the seat of the most destructive lesions, the interstitium by no means remains indifferent to the degeneration, but takes part also in the process. So there may come a time when the parenchyma is so destroyed, — the proliferation of interstitium continuing in the meanwhile,— that there is a shading off into a chronic interstitial nephritis. It is in this transitional stage that difficulty will arise in determining from a urinalysis with what form of Bright's one may have to deal. Similarly in chronic interstitial nephritis the parenchyma of the organ may not only be destroyed by compression of the advancing interstitial proliferation, but may also of itself take part in the degeneration. The characteristics of the urine in chronic interstitial nephritis are: A large quantity of clear, pale urine of low sp. gr., very small amount of albumen, or none, a few red blood cells and a few hyaline casts in the sediment, and also a marked diminution in the total phosphates and urea. To be borne in mind is the exception in heart failure to which I have already called your attention.

The urine in acute parenchymatous nephritis simulates in many respects the urine of febrile conditions. In addition albumen is present in quantity, all varieties of casts may be found, and the urea, phosphates, and chlorides are constantly decreased. The diminution in quantity may be so great that entire suppression may result.

The picture of the urine in diabetes mellitus is a classic, and many of the laity can now make a diagnosis without professional aid. I shall only call your attention to two substances which when present in the urine of diabetics must always be considered of grave import, they are acetone and diacetic acid. Now acetone may be present in the urine in certain fevers. Namely: In scarlet fever, typhoid fever, measles and pneumonia, or, it may be present in carcinoma, starvation and many of the psychoses. In diabetics, however, it is usually an indication of an advanced stage of the disease, and when accompanied by cerebral symptoms is a grave condition. Of greater import is the presence of diacetic acid, which when present in the urine of diabetics, especially in those under the age of 30, the issue is almost always fatal. While these two substances may exist independently in the urine of this disease, diacetic acid may be converted into alcohol, acetone and CO_2 by the addition of alkalies. The urine to be tested must, therefore, be fresh; for the subsequent alkaline reaction of the specimen will cause the dissipation of these substances.

Permit me to introduce here, two simple tests, which I have found useful in determining the presence of acetone and diacetic acid.

Lieben's Test for Acetone: 20 grs. KI are dissolved in one drachm of liquor potassæ and boiled; the urine is then floated upon the surface of the fluid in a test tube. At the point of contact a precipitation of phosphates occurs which will be studded with yellow points of iodoform if acetone be present. These yellow points will also give the characteristic odor of iodoform. If the urine be evaporated to one-half its volume before applying the test the subsequent procedure will be more accurate. Lactic acid and ethyl alcohol will also give this reaction. These must then be borne in mind when making the test.

Von Jaksch's Test for Diacetic Acid: To the urine a fairly concentrated solution of ferric chloride is cautiously added, and if a precipitate occurs this is filtered off and more of the ferric chloride added. If a Bordeaux-red color appears, one portion of the urine is boiled and the other portion is extracted with sulphuric ether. If the dark red color disappears on boiling, or, is not produced if the urine be previously boiled, diacetic acid is probably present. To the second portion which was extracted with ether, add a few drops of a weak sol. of ferric chloride to the etheral extract, and if diacetic acid be present the color becomes claret-red. Salicylic acid, phenol, antipyrin, and thallin give the same reaction with ferric chloride, but the red color produced by these drugs does not disappear on boiling as in the case of diacetic acid.

Considering the fact that typhoid fever is most apt to be common at this period of the year, I shall now call your attention to the urine in this disease. The urine is diminished in quantity, of a high color, increased sp. gr., absolute increase of urea, and diminution of chlorides and phosphates. In addition, albumen, renal casts and blood from the kidney are almost always found. Later in the disease the typhoid bacillus in quite a per cent of the cases may be recovered from the urine. They may also, though less frequently, be recovered from the urine earlier than it is possible to obtain them from the feces; and they may persist in appearing in the urine for a considerable period after convalesence is established. The importance then of disinfecting the urine is as paramount as disinfecting the feces; and bacteriological examinations of the urine in convalesence should be continued until the bacilli have disappeared. Especially will these insistences impress you when the danger to the community is considered.

Dr. Mark W. Richardson[1] who has made very valuable contributions to our knowledge along this line, in his first studies at the Mass. Gen'l Hospital, found the typhoid bacillus in the urines of nine out of thirty-eight cases. The bacilli when demonstrated were always present in large numbers. They first appeared in the later stages of the disease and persisted in the majority of cases far into convalesence. They were practically always associated with the presence of albumen and renal casts, but urines showing albumen and casts in quantity often showed no bacilli. In a later article Richardson[2] in discussing the therapeutics of this condition says: "In nine cases of typhoid fever in which the urine contained typhoid bacilli, Urotropin never failed to remove the organisms. . . . In the great majority of cases 60 grains of Urotropin are sufficient to remove the typhoid bacilli. Exceptionally 200 to 300 grains are required." He advises that "all typhoid patients should receive 30 grains Urotropin daily for ten days, beginning with the third or fourth week of the disease," and that "probably equally good results could be accomplished by the administration of small doses of the drug (10 grains daily) throughout the disease."

Of 14 cases in which the urine of typhoid patients was examined bacteriologically by the writer the typhoid bacillus was not found, although eight of these cases showed albumen and casts in quantity.

From a review of the literature of the subject I find that typhoid bacilli have been found in 25% of the cases studied.

In 1882, when Erlich first called attention to the diazo reaction in the urine of typhoid fever, it was hoped that it would prove a valuable aid in diagnosis, and so in a measure it has, but its occurrence in some of the other diseases renders it a less positive sign and relegates it to the class of concomitant symptoms. Von Noorden[3], however, in speaking of this symptom, goes so far as to say that "a mild febrile, or sub-febrile disease with an outspoken diazo reaction must always be considered as strongly suspicious of typhoid fever. The reaction is most commonly found in the first week, although cases may run their course without its appearance being detected.

Heweston[4] in 50 cases studied, found the reaction in 77% of the cases in the first week, 67% in the second, 47% in the third, and 17% in the fourth week. In 130 cases studied by Edwards[5] the reaction was absent in only two of them. Simon[6] found the reaction in 22 of 26 cases. In 14 cases examined by the writer the reaction was positive in all.

While the hæmaturia of typhoid fever, either as blood in the corpuscular state or hæmoglobin, is usually considered a grave symptom, such cases are not always fatal.

On the toxicity of the urine, and especially of the urine in typhoid fever, much valuable work has been done. The uro toxic-coefficient for normal urine is estimated by Bouchard[7] to be .363. What is understood by uro-toxic-coefficient is, that fraction of a kilogramme of animal tissue which is killed by the injection of the 24 hrs. amount of urine secreted by one kilogramme of the animal experimented upon.

Roque and Weill[8] have determined by experimentation that the toxicity of the urine in typhoid fever is double that of normal urine; that it is independent of temperature and remains increased throughout the disease and during convalesence; and that it is not dependent on the amount of urine excreted. According to these two observers, the Brand treatment increases the toxicity of the urine in this disease and is thereby beneficial in that it rids the economy of what is detrimental.

So far as toxic products are concerned, my own observations have been limited to noting the excretion of Indican, which I have found increased in all of my cases. Impressed as I have been with the increased elimination of this product, especially in cases where an intestinal auto-toxis is indicated, I have come to consider it as a sign which whenever present must influence our therapeutics.

Of the exanthemata, although it hardly seems necessary, I shall only call your attention to a complication which is liable to arise in the course of scarlatina, — acute parenchymatous nephritis or scarlatinal nephritis. To treat a case of scarlet fever and not keep under observation the urine, can hardly be described as anything less than criminal negligence; for the more or less sudden onset ofthe complication, and too, the sometimes insidious character of the invasion, if not recognized, may prove fatal, or, result in a chronic invalidism throughout life.

Of the anæmias, pernicious anæmia is, perhaps, the more liable to show anything of import in the urine. The quantity is apt to be slightly increased, the sp. gr. diminished, albumen present in slight trace, and a few hyaline casts may be found, the whole condition simulating a chronic interstitial nephritis. I need not point out that to treat such a case for a chronic interstitial nephritis without establishing a diagnosis of the true condition by means of a blood examination, would not only be an unscientific procedure, but one's therapeusis might not be followed by gratifying results. It might not be out of place to add in this connection that most, if not all, cases of chronic diffuse nephritis show a secondary anæmia, and most cases of pernicious anæmia a secondary nephritis — if you will.

There is a large variety of intestinal disturbances and many complications of the psychoses, which because of their obscure etiology but their more or less evident toxic nature are classed as auto-intoxications. Of the endless variety of chemical changes which take place in the intestinal tract we know that when the metabolism is deranged there are elaborated noxious products. Some of these bodies are gotten rid of by the excretory glands, while others by absorption enter into the formation of still more complex substances. Of those which escape in the shape of pigment by way of the urinary tract I shall again call your attention to Indican. At the suggestion of Prof. Colby, a year ago I began some studies on this pigment. The work is not yet completed, neither is it very far advanced, but there is sufficient progress to warrant this note. Out of 461 urinalyses done in the laboratory of the Westboro Insane Hospital during the past year 211 showed an increase of Indican, and this increase was, practically, always associated with digestive disturbances of some sort.

I have found the following test useful for clinical diagnosis of the increase of Indican: 10 c. c. of a solution of ferric chloride 1 part, and H Cl 500 parts, and 10 c. c. of urine are mixed in a test tube to which is added 2 c. c. of chloroform. The whole is then mixed by a series of inversions and then allowed to settle. If Indican be present in excess the chloroform will be tinged from a cerulean blue to a bluish-black. A very slight bluish tinge is not to be considered an increase.

The examination of the urinary sediment will, often times, give more information than any other one procedure. Especially is this true of the various forms of cystitis, of pyelitis, and of pyelo-nephritis. If one has cause to suspect a gonoccoccus infection, the gonococci may be demonstrated by applying the special methods of staining to dried smears of the sediment. Equally is this true of the tubercle bacilli in cases of tuberculous cystitis, pyelitis, and pyelo-nephritis. In six cases of tuberculous cystitis studied by Brown, tubercle bacilli were, as a rule, found in small numbers, and were present in pure culture in all but one, in which case the colon bacillus was also present.

Pyuria is always present in cystitis, pyelitis, and pyelo-nephritis. Albumen is also, generally present. Brown[9] in writing of these conditions says: (other things being equal) "if the grade of pyuria is decidedly more marked than the grade of albuminuria, cystitis is probably present alone; while, if there is considerable disproportion in the other direction, it speaks for a renal infection, alone or associated with cystitis." In pyelo-nephritis the sp. gr. of the urine is usually low.

Casts when found persistently in the urine, even if albumen be absent, usually indicate nephritis. It is, however, not uncommon to find a few hyaline casts in people of advanced age, or in adults in their prime, who are accustomed to take alcoholic drinks in moderation. So really a few casts under the last named conditions do not have much significance.

In the treatment of the subject which I have presented to you, no one is more impressed than I with its imperfect handling. Many things have been only touched upon, others not even mentioned. A complete clinical guide, even were I able to present you one, could not be given in the time allotted for reading a paper. If I have, however, succeeded in calling your attention to anything worth remembering this little effort will not have been in vain.

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DISCUSSION.

Dr. Edward P. Colby. A paper as well prepared as this one demands no discussion; it speaks for itself. It is very complete, and your attention has been called to points of such great importance that it is not by the reading of the paper or the discussion of it that you can get the full value of it, but it is reading it in print as a matter of reference, and it contains such good material that you can get a great deal from it, therefore, I will take up but one point that the doctor has mentioned, that of auto-infection. There are so many diseases that come from auto-infection, intestinal infection. One of these fecal compounds is Indican, and I certainly hope that Dr. Fuller will persist in his endeavor to get at the exact quantity, so that one person can compare his notes with another's, and we will be able to forestall a case of pernicious anæmia. Now Indican is the only one we know, and I hope that Dr. Fuller will give us an authoritive method by which we can estimate the quantity exact, and so forestall some of these terrible things which, after they have once manifested themselves, are so difficult to get rid of. They must be taken in their first stage in order to save life.

Dr. A. Howard Powers. I did not notice that Dr. Fuller called attention to the total amount of solids. My experience has been that diseases are often fatal if the kidneys do not throw off a certain amount of solids, so I consider the estimation of the total solids a very important point.

THE TREATMENT OF LATENT GONORRHŒA IN THE FEMALE.

BY GEORGE R. SOUTHWICK, M.D., BOSTON, MASS.

The word "latent" is used in the sense of concealed, and not to mean that the disease has caused a general systemic infection which may reappear from some exciting cause. Chronic gonorrhœa is a better term.

Wherever gonorrhœa is present, latent or not, the gonococcus is also present, and without the latter the former does not exist. It is important to recognize the fact that the germ may be modified greatly in virulence and scarcely found in the vaginal secretions, yet under favorable conditions it soon regains all the power of producing severe infection.

The reappearance of gonorrhœa in the male after all signs of the disease has disappeared, and even after a negative bacteriological examination, is not an unusual clinical experience. The genitalia of the female below the uterus permit more thorough treatment, and such reappearance of the disease is more infrequent in the female.

It is interesting to note the statement of Laser of Königsberg that he found the gonococcus in the urethra of eighty-eight out of one hundred and eleven cases that revealed the presence of this infecting organism, though there was no macroscopic evidence of the disease;

also, that in the prostitutes examined about one in three of the cases of gonorrhœa showed no sign of the disease except by a bacteriological examination. It is well known that the glands of Skene, the glands of Bartholini, the mucous follicles, the rugæ of the mucous membrane and the cervical canal are lurking places for the germs of this disease in its chronic or latent form. A woman may show no visible sign of it for a considerable period of time, when it suddenly becomes virulent and has the clinical appearance of a new infection. She is likely to consider it such or the man infected by her to accuse her of it. Unfair suspicions are aroused which may assume great importance from a medico-legal point of view.

It may be asked with good reason how a case of latent gonorrhœa can be diagnosed if there is no visible evidence of the disease. Close inspection of the mucous membrane of the vagina is apt to reveal a faint mottled or raspberry appearance, or a little redness about the ducts from the glands of Bartholini. Another test which can be applied is to touch the suspected areas with a twenty-five per cent. solution of the chloride of zinc, or stronger if necessary, to produce an artificial vaginitis. This provides a culture medium in which the stray or weak germs multiply rapidly and are found readily by the usual microscopical examination. If gonococci are not present the artificial inflammation readily subsides.

The cure of gonorrhœa depends on the destruction and eradication of the germ, and though thorough douching, painstaking cleanliness and the use of vaginal tampons impregnated with efficient germicides are invaluable, they are not always sufficient in the treatment of chronic gonorrhœa. If the glands of Bartholini suppurate, removal is often advisable to effect a cure. If the glands of Skene are infected it may be necessary to slit open and cauterize them. This last procedure seldom is required. It is far more important to stretch the vagina so as to unfold every crease and bring every part of the mucous membrane within reach of local treatment. It is well known that the germs enter the glands, inflame them and thus produce the catarrhal discharge so characteristic of the disease. They lie safely hidden in the depths of the follicle and protected by the plug of mucus filling its mouth, and are not reached readily by any local application unless this mucus is removed most thoroughly. This mucus is too adhesive to be removed by any ordinary washing or wiping without first destroying its adhesive character. The writer has found two excellent agents for this purpose, the preparation used for Seiler's tablets in powder form which is mixed in water and glyco-thymoline or glyco-antisepo. It can be applied to good advantage by thoroughly swabbing the mucous membrane with it, but I am of the opinion that it can be used to better advantage by compressed air.

The various local applications and some of the apparatus used by the nose and throat specialists can be adapted to the work of the gynæcologist or proctologist to good advantage as all three specialists treat mucous membrane. This is especially true in the disease under consideration. I am at present using an air pressure of about fifty pounds for spraying or nebulizing purposes, chiefly the former. This pressure is excessive in some cases. The force given to the spray held close to the mucous membrane drives it with sufficient energy against the mouths of the follicles to destroy the adhesiveness of the mucous plugs and to blow them away or dissolve them. The vagina is first thoroughly distended with the aid of Sim's speculum, so that every part is stretched and brought into direct view with or without the aid of Nott's depressor. The vagina and the cervical canal as far as the spray will reach is then sprayed at a high pressure. This is followed by thorough swabbing with absorbent cotton. The folds of mucous membrane and the cervical canal are thus cleaned very thoroughly and prepared for the application of the germicide by the spray which at a high pressure appears to have peculiar penetrating qualities. My favorite application at this time is ten grains of Protargol to an ounce of water. The force of the spray materially aids the effect of this remedy in reaching the germs concealed in the mucous follicles and deep creases of the mucosa The cervical canal is treated thus far better than by any tampon. After all the mucous membrane has been sprayed carefully, a long, small tampon saturated with the same solution is placed in the vagina. The patient is instructed to remove the tampon the next day, take a large douche of a very hot (115°F.) solution of permanganate of potash and to call at the office the next day for a repetition of the treatment. The office visits are more infrequent as recovery progresses, but the douches of permanganate of potash are continued, and at night the patient is instructed to use a vaginal suppository containing five grains of Protargol, ten grains of ichthyol and one hundred grains of boro-glyceride. A spray of ichthyol and glycerine to which hydrastis may be added is often substituted near the close of treatment for the spray of Protargol.

If gonorrhœa has invaded the uterine cavity it is treated on the same principles but without a high pressure of air and always providing for a free exit from the cervix. A cervical speculum is useful for this purpose. My usual routine in such cases is to clean and treat the vagina, then dilate the cervical canal if necessary, clean the uterine cavity with glyco-thymoline, next peroxide of hydrogen full strength and then use Protargol very thoroughly. A gelatine pencil of Protargol a little shorter than the depth of the uterine cavity is inserted and held in place by the vaginal tampon.

The writer has not yet had occasion to use nebulized oils in the treatment of endometritis, but some experimental work points out the great value of such applications as compared with the clumsy and ineffectual methods now employed for local treatment of the endometrium. These same methods may prove desirable for the treatment of the male urethra and especially for the rectum with Kelly's proctoscope.

The use of compressed air in the usual routine of gynæcological work is not in the limits of this paper, but it marks an era of progress and is well worthy of serious consideration.

ECZEMA IN THE ADULT.

BY JOHN L. COFFIN, M.D., BOSTON, MASS.

I have chosen the above subject for the reasons that it is a condition that often proves most intractable and trying in its management, and because the mistake is not infrequently made of treating the cutaneous manifestations exclusively rather than the unfortunate individual who presents them.

Eczema in the adult while it may present itself in any or all of its protean forms more generally manifests itself in the sub-acute or chronic varieties, subject at times and from various exciting causes to acute exacerbations. The erythematous and papular are the varieties more commonly observed. The erythematous shows itself in a generally reddened, thickened integument over the affected part, which is either scaly or constantly subject to a fine, branny desquamation. The parts most generally affected are in this order of frequency, the face, genitals, arms and legs. Burning and itching are almost constantly present, and acute involvement of the parts is frequently induced by the scratching and tearing thereby provoked. In the papular form disseminated patches are found, reddened, covered with fine, hard, red papules, showing a general erythematous skin between, with the whole surface torn and covered with blood crusts, the result of scratching caused by the intolerable itching. This is the most troublesome of all forms of eczema in this respect. The arms, legs, thighs and body are the parts most liable to be involved.

Believing as I do that the successful management of a case of chronic eczema depends almost, if not entirely upon the treatment of the individual, regardless of the particular lesions manifested on his skin, it would be useless to talk of its treatment unless I first ask you to bear with me while I briefly consider some of the causes which lead up to the production of this disease.

Causes of eczema may be divided, as in other diseases, into predisposing and exciting.

PREDISPOSING.

Inherited States.

- Tissue Debility.
- Struma.
- Gout and Rheumatism.
- Neuroses.
- Bronchitis and Asthma.

Acquired States.

1 **Assimilative Derangements.**
- Dyspepsia.
- Auto-intoxication.
- Hepatic Disorders.
- Lithemia.

2 **Eliminative Derangements.**
- Intestinal.
- Renal.
- Pulmonary.
- Dermal.

3 **Neurotic Derangements.**
- Neurasthenia.
- Neuroses.

4 **Vascular Derangements.**
- Cardiac.
- Peripheral.

Accidental Conditions.

- Faulty nutrition.
- Disturbing occupation.
- Disease.

EXCITING.

Internal.
1 Defective Nutrition.
2 Defective Hygiene.
3 Defective Assimilation and Excretion.
4 Neurotic Conditions.

External.
1 Atmospheric Influences.
2 Mechanical Irritants.
3 Chemical Irritants.
4 Parasitic Elements.

It is not my purpose to burden you with the details of the way in which these various causes work to produce the diseased state under consideration, but I do wish to dwell for a moment on one or two of them as especially underlying eczema in the adult, failure in recognizing which nearly always results in failure to cure.

Of the predisposing causes then let us for a moment note the derangements of assimilation and elimination. Under the first we have dyspepsia, auto-intoxication, hepatic disorders. Under the second, intestinal, renal, pulmonary. Dyspepsia in some of its varied manifestations is present in many cases of adult eczema, but it not infrequently requires diligent search and examination to find it being often insufficient to markedly attract the attention of the patient but acting continuously for a long time, sets up a condition of assimilative derangement which finds its chief expression on the cutaneous surface, or this low-grade continuous indigestion may originate the second of these causes, viz: auto-intoxication, which eventually finds expression in a chronically inflamed thickened skin, in other words, a chronic eczema. Auto-intoxication, caused by the processes of fermentation in the intestinal canal with the production of its various bacteria or by faulty metabolism caused in turn by chronic indigestion, is now a well-established cause, both predisposing and exciting, of eczema.

Functional hepatic derangement is another condition which in my experience is a very fertile cause of eczema in the adult, especially in men. It comprises all that train of symptoms included under the general term "biliousness" which have been so well condensed by Murchison in his lectures on "Functional Derangements of the Liver," that I cannot refrain from quoting.

"1. A feeling of weight and fulness at the epigastrium and in the region of the liver.

2. Flatulent distension of stomach and bowels.

3. Heart-burn and acid eructations.

4. A feeling of weariness and oppression, and aching pain in the limbs or of insurmountable sleepiness after meals.

5. A furred tongue, which is often large and indented at the edges, and a clammy, bitter, or metallic taste in the mouth, especially in the morning.

6. Appetite often good, at other times anorexia and nausea.

7. An excessive secretion of viscid mucus in the fauces and back of the nose.

8. Constipation, the motions being scybalous, sometimes too dark, at others light or clay-colored; occasionally attacks of diarrhœa alternating with constipation, especially in the patient intemperate in the use of alcohol.

9. In some patients attacks of palpitation or irregularity or intermission of the pulse.

10. In many occasional attacks of frontal headache.

11. Often restless at night with bad dreams.

12. In some patients attacks of vertigo or dimness of vision, often caused by particular articles of diet."

This comprises a list of symptoms, the importance of which cannot be overestimated, and in the majority of cases of adult eczema coming to my notice, especially in men, more or less of these symptoms are to be found.

Under the second class of causes of which I wish to speak those of defective elimination are of the most importance.

Constipation affects profoundly the system in various ways, but principally by loading the blood with excrementitious substances whereby it acts as a distinct irritant as it circulates through the skin or by fermentation in the intestinal canal produces toxines and bacteria from which auto-intoxication takes place. The interdependence of the skin and kidneys in health is so intimate that in deficient renal action we would naturally look for a pernicious effect on the skin.

While it is not yet well established just what the renal deficiencies are which are most productive of eczema we do know that in many, if not most, cases in the adult the renal elimination is not normal. Deficiency in the solid constituents of the urine is perhaps most common, while excess of the urates and the presence of oxalates are by no means infrequent. To the above conditions of deficient dissimilation and excretion there should be added a third, the neurotic, to make the list even approximately complete. The neurotic state most frequently back of eczema is neurasthenia, varying in degree.

In these days when nerves run riot it is unnecessary for me to enlarge on this theme, its symptoms are too well known to you all. I only wish to emphasize to you the fact that in neurotic eczema, cure is impossible until the tired or exhausted nervous system is brought somewhere near the normal.

What can be done to cure these rebellious and intractable cases? I wish it were in my power to give you some specific and altogether certain directions for its cure, but it is impossible; the best I can do is to indicate certain procedures most necessary to its management. You will notice I say management, for the cure of all cases of this class is a question of management more than prescribing. First, last, and always treat the *patient* and not his *skin*. Diet and hygiene are always of primary importance, drugs are secondary. Errors of diet comprise errors in quantity, quality, modes of preparation and times and manner of eating and drinking. Do not fall into the too common error of thinking that dieting always means restriction in amount, it may mean quite the contrary. I know of no better definition of this term than that given by Bulkley. Permit me to again quote: "Diet signifies such a regulation of the quantity and quality of the food and drink taken, its mode of preparation, and the time and method of its consumption as shall conduce to the restoration and maintainence of health." Hygiene takes into account employment, rest, time and hours of sleep, ventilation, clothing, exercise, bathing and in fact all the details of life which go to make up the habitat and environment of the patient.

Lack of time forbids an extended consideration of all these topics, interesting and necessary as they are. Is your patient gouty or rheumatic, restrict or cut off entirely red meats, acids, tomatoes, rhubarb, and alcohol in all forms. Has he flatulent dyspepsia and a torpid liver, cut off the carbo-hydrates, tea and coffee. Is he strenuous, give carbohydrates and fats to the full extent the digestion will permit. Is he neurotic, feed frequently and in small amounts, and mildly stimulate if necessary.

Omit not to observe the minutest detail in the history and habits of your patient if you would be successful, remembering what Brosq the eminent Parisian dermatologist says, " Eczema perhaps more than any other affection, seems to be a reflex of the life and of the functioning of the human organization with all its complexity." The internal remedies to be employed should of course be determined by the symptoms presented. Those which I have found most efficacious and which I most frequently employ are, the Mercurials, Nux vom. Carbo veg., Lycopodium, Sulphur, Hydrastis, Cocculus, Capsicum, Hyoscyamus, Arseniate of Strychnine, Anacardium, Calc. phos., Calc. iod. and Arsen. iod.

Where the skin is markedly red and congested associated with intestinal derangement, constipation, torpid liver and furred tongue I have seen quick relief to the intense itching and marked improvement in the skin from the administration for a few days only of a tablet of Merc. dulc 1 x given every night and morning, if the constipation be habitual and especially if associated with flatulence; this is followed by Nux vom. 2 x or 6 x, given before or after meals, and sometimes accompanied with a one grain tablet of crude Sulphur night and morning. If there is no marked constipation, but whitish, furred, shiny tongue, with bitter or metallic taste in the morning, anorexia, heaviness, etc., Merc. viv. in the 2 x trit. has proved of great value.

For " windiness " in the digestive tract the two remedies I most rely on are Carbo veg. and Lycopod. frequently supplemented by Nux especially when the symptoms indicate more or less atony of the intestines. For marked distress or pain after eating with or without a feeling of lump in stomach, I have found Capsicum a most efficient remedy.

Arseniate of Strychnine and Anacardium are remedies of the utmost service in neurotic cases especially after the digestive derangements common to most of these cases have been relieved. But I feel I am bringing "coals to Newcastle" in attempting to *indicate* the remedy to an assembly like this, and the only point that I wish to call your attention to is, that in none of the indications I have cited do I say a word about the skin because I wish to again emphasize the fact that if you can cure the *patient* the skin will, with local assistance, take care of itself. (Mat. Med. Skin symptoms).

What of local assistance? Locally, applications are of the greatest auxiliary value. As a rule, these cases being sub-acute or chronic, stimulation to a greater or less degree is imperative. The more chronic the condition the greater the amount of stimulation necessary.

The class of external remedies most useful are the various preparations of tar, Ichthyol, Resorcin, Sulphur, Salicylic Acid and the Mercurials. These applications for the most part are best applied in unguents or pastes and so far as possible should be kept continuously applied. In places where it is difficult to retain dressings, the medicament can be incorporated in some of the drying varnishes which are painted on and quickly dry, forming an impermeable dressing such as the [1]Pasta Exsiccans of Pick, [2]the Pigmentum Gelanthi et Amygdalac of Bulkley, or [3]Unna's Glycerine Jelly.

Where there is a great deal of thickening of the skin, sheet rubber applied to the part and bandaged will save much time, although it is rather uncomfortable for the patient.

1	Tragacanthe	ʒi	2	Acid Carbol.	ʒi	3	Dextrine	℥i
	Glycerine	ʒss		Glycerine	ʒi		Gelatin alb.	ʒvi
	Aq. Bullientis	℥iss		Gelanthi	℥i		Zinc ox.	ʒvi
M				Emulsi Amyg. ad	℥iii		Glycerine	ʒix
			M	(Should be made fresh)			Aq.	℥ii

M As follows: Melt gelatin in water, add glycerine and dextrine. When dissolved stir in zinc.

Massachusetts Homœopathic Medical Society.

REPORT OF THE COMMITTEE ON REGISTRATION AND STATISTICS, APRIL, 1901.

In presenting this report your committee has aimed especially to give what may be called a "bird's-eye" view of the various Medical Societies, Hospitals, Dispensaries and other organizations in which members of our Society or the Homœopathic medical profession serve.

The task which at first seemed an easy one, has, with the performance thereof, grown larger and larger. Even your committee is surprised at the number of organizations which come in our province at this time, and we hope in the presentation of this outline report to ascertain about organizations of which we have as yet, little or no knowledge. If any member present finds that some Hospital or Home with which he is connected is not mentioned here, we urgently ask him to supply us at once with complete data in order that this report may be what we desire.

Eleven years ago, under the able chairmanship of our late colleague, Dr. I. T. Talbot, a detailed report was presented. During the next decade reports were omitted. We recall with gratification the report presented last year by Dr. T. M. Strong, chairman of the committee.

The increase in the number of institutions and organizations in the decade mentioned has been great, as has the increase in the character and amount of work accomplished.

BOSTON UNIVERSITY SCHOOL OF MEDICINE.

Today this Medical School is taking still higher ground in its entrance examinations, and aiming more and more to fully equip the student with all that is possible. During the present year 131 students are enrolled.

The Faculty now numbers 58, most of whom are alumni of the School. In the Annual Announcement will be found the list of the Faculty and Alumni, the latter now reaching well toward 1000.

We cannot do better than to refer you to the Address of our President, Dr. John L. Coffin, (see p. 28 of this vol.) for some facts that concern both the School and every member of this Society. Let us not forget how much this Society owes to it. Over 68% of our present members are Alumni of the School.

In this connection it is well to note a few things of interest regarding two important adjuncts of the School.

ALUMNI ASSOCIATION OF THE BOSTON UNIVERSITY SCHOOL OF MEDICINE.

This Association includes all graduates of the school, and was formed for the purpose of promoting social and friendly relations between the Alumni, as well as to coöperate with the Faculty in maintaining a high standard of medical education.

A Committee of Ways and Means has been established to solicit funds for the school. Money secured in this manner has been used in equipping the school with necessary apparatus, and making loans to worthy students on properly endorsed notes.

In 1898 a special appeal was made to the Alumni for a Scholarship Fund to establish three or four annual scholarships, and a portion of the fund has been raised.

The annual business meeting of the Association is held some time during the day preceding Commencement, and the banquet and the reunion of the Alumni in the evening.

The Officers for 1901–2 are as follows:

***President*, J. Emmons Briggs, M.D., Boston. *1st Vice-President*, Wm. O. Mann, M.D., Boston. *2d Vice-President*, Maurice W. Turner, M.D., Brookline. *Secretary*, David W. Wells, M.D., Boston. *Assistant Secretary*, Charles T. Howard, M.D., Watertown. *Treasurer*, Herbert D. Boyd, M.D., Boston.**

Ways and Means Committee.

J. Emmons Briggs, M.D., *Chairman*. Martha E. Mann, M.D. Eliza B. Cahill, M.D. Frederick P. Batchelder, M.D. Conrad Smith, M.D.

THE NEW ENGLAND HAHNEMANN ASSOCIATION.

This was organized January 14, 1895, and incorporated March 23, 1896. This is true in name, but as a matter of fact it began its career as the Homœopathic Association of Boston University Medical School in 1873. At that time, in the first year of the School's life the aid of the patrons of Homœopathy was solicited through this medium, and a little journal, "The Record" was published. This was revived in the "Bulletin of Medical Instruction" in 1894.

The present organization has a membership of 375. Over $7,000 has been raised and applied in furthering the work in the School.

The list of officers for 1901 is as follows:

President, Edmund A. Whitman.

Vice-Presidents, Alden Speare, Julia Ward Howe, Chas. R. Codman, William F. Whittemore, H. M. Baker, Henry Howard, Nancy T. Williams, M.D., W. R. Burnham.

Treasurer, R. H. Stearns. *Assistant Treasurer*, F. W. Stearns.

Recording Secretary, Wesley T. Lee, M.D.

Corresponding Secretary, Horace Packard, M.D.

Directors, Samuel P. Mandell, Geo. V. S. Michaelis, Conrad Wesselhoeft, M.D., Henry B. Day, A. J. Baker Flint, M.D., J. Livingston Grandin.

TABULAR VIEW OF HOMŒOPATHIC MEDICAL SOCIETIES IN MASSACHUSETTS.

No.	Name.	Place of Meeting.	Organized.	No. of Meetings in Yr.	Annual Meeting.	Total Membership.	New Memb. Last Year.
	General.						
1	Mass. Hom. Med.	Boston	1852	2	April	341	39
2	Mass. Surg. and Gynæcol.	Boston	1877	2	Dec.	212	18
	Local.						
1	Allen Mat. Med. Club	Springfield	1899	Monthly	March	21	
2	Boston Hom. Med.	Boston	1873	11	Jan.	278	10
3	Essex County	Salem	1871	Monthly	Oct.	32	0
4	Hom. Med. Soc'y Western Mass.	Springfield	1877	4	March	57	6
5	Hughes Medical Club	Boston	1879	9	May	16	
6	Lowell Hahnemann Club	Lowell	1881	5	Dec.	12	
7	Neighborhood Med. Club	Boston	1897	8	April	30	5
8	20th Century " "	Boston	1897	8	May	36	3
9	Worcester County	Worcester (usually)	1866	4	Nov.	72	0

MASSACHUSETTS HOMŒOPATHIC MEDICAL SOCIETY.

The list of officers of our Society and a detailed report of the work done in 1900 will be found in Vol. XIV of the Transactions.

In reviewing the roll of membership the following facts appear:

Active members,	280	
Life "	42	
		322
Corresponding members,	14	
Honorary "	5	
		19
Total membership April 1, 1901,		341
Members resigned during the year,	3	
" deceased " " "	4	
" dropped " " "	5	
	12	
New members admitted during 1900,		39

The most fitting comment on the growth of the Society is the fact that in 1847 Dr. Hiram L. Chase, of Cambridge, Secretary of the Homœopathic Fraternity, the forerunner of our present Society, was accustomed to send notices of the meeting to twelve physicians (members), two of whom resided in other states.

MASSACHUSETTS SURGICAL AND GYNÆCOLOGICAL SOCIETY.

This Society, organized March 7, 1877, has as its object the consideration of subjects indicated by its title. During the past year the growth in membership has been a healthy one, and the meetings held respectively in June and December, have been alive and helpful.

President, Henry E. Spalding, M.D. *Vice-Presidents*, G. Forrest Martin, M.D., William T. Hopkins, M.D. *General Secretary*, T. M. Strong, M.D. *Assoc. Secretary*, Herbert D. Boyd, M.D. *Treasurer*, Grace E. Cross, M.D. *Auditor*, N. H. Houghton, M.D. *Censors*, Geo. S. Adams, M.D., Geo. H. Earl, M.D., Frank A. Gardner, M.D.

ALLEN MATERIA MEDICA CLUB.

This organization was started in March, 1899, especially for the study of Materia Medica. On the evening of March 1st of that year twenty of the physicians of Springfield, Mass., were assembled to celebrate the forty-third anniversary of the graduation of Dr. A. M. Cushing from Hahnemann Medical College, Philadelphia, and this club was the outgrowth of the pleasant occasion. (See N. E. Med. Gazette, April, 1899, p. 185).

Meetings are held monthly, July and August excepted. The members comprise physicians of Springfield, Holyoke and Chicopee.

President, Plumb Brown, M.D. *Secretary*, Clarice J. Parsons, M.D.

BOSTON HOMŒOPATHIC MEDICAL SOCIETY.

During the twenty-eight years of its existence, this Society has been officered by able and loyal members of the profession in and near Boston. For a full report of last year's work, see the Year Book of the Society. Under the present method of assigning the preparation of the program of each meeting to a special committee for that section, appointed a year in advance, the interest has markedly increased.

The following data are of interest:

Active members January 4, 1900,	245	
Corresponding members,	30	
New members elected in 1900,	10	
Total,		285
Members resigned during year,	4	
" deceased " "	3	
Total,		7
Membership January 3, 1901,		278

President, T. Morris Strong, M.D. *First Vice-President*, Frank E. Allard, M.D. *Second Vice-President*, Elmon R. Johnson, M.D. *General Secretary*, Edward E. Allen, M.D. *Associate Secretary*, H. O. Spalding, M.D. *Treasurer*, Maurice W. Turner, M.D. *Auditor*, Frederick W. Colburn, M.D. *Censors*, Frederick A. Davis, M.D., Frederick W. Halsey, M.D., George A. Suffa, M.D.

ESSEX COUNTY HOMŒOPATHIC MEDICAL SOCIETY.

The meetings are usually held monthly, either in Salem or one of the other cities in Essex County.

Your committee regrets to learn that during the past year no meetings have been held. We earnestly hope that they may at once be resumed.

The officers last elected are:

President, George B. Carr, M.D., Lynn. *Vice-President*, Jane S. Devereaux, M.D., Marblehead. *Secretary and Treasurer*, Charles W. Morse, M.D., Salem. *Auditors*, David Foss, M.D., Newburyport, Kate G. Mudge, M.D., Salem. *Censors*, Charles R. Brown, M.D., Lynn, Kate G. Mudge, M.D., Salem, R. S. True, M.D., Marblehead.

HOMŒOPATHIC MEDICAL SOCIETY OF WESTERN MASSACHUSETTS.

This society is increasing in numbers and favor, all the four quarterly meetings have been well attended, and the programs have been interesting. During the past year Materia Medica has received particular attention. No doubt the organization of the Hampden Homœopathic Hospital mentioned elsewhere in our report, has done much to unite and interest the members of this society.

President, H. R. Sackett, M.D., Holyoke. *First Vice-President*, Clarice J. Parsons, M.D., Springfield. *Second Vice-President*, Samuel E. Fletcher, M.D., Chicopee. *Secretary and Treasurer*, Alice E. Rowe, M.D., 9 Maple St., Springfield. *Censors*, Plumb Brown, M.D., Springfield, Frank A. Woods, M.D., Holyoke, John P. Rand, M.D., Monson.

HUGHES MEDICAL CLUB, BOSTON, MASS.

The formation of this club occurred in 1879, and was named in honor of the eminent physician and therapeutist, Richard Hughes, M.D., of Brighton, England.

Meetings are held in Boston on the second Friday of each month, from October to June, inclusive, and the President is chosen at each meeting. The annual meeting is in May. The Secretary is George B. Rice, M.D. Membership is limited in number.

LOWELL HAHNEMANN CLUB.

The first meeting, informal in character, was held on Tuesday evening, Nov. 8, 1881, at the office of Dr. Horatio M. Hunter in Lowell. A second meeting was held one week later, at which a constitution and by-laws were adopted, and organization was completed as follows:

President, Horatio M. Hunter, M.D. *Vice-President*, Frederick A. Warner, M.D. *Secretary*, Edward B. Holt, M.D. *Treasurer*, Clarence H. Leland, M.D.

At the annual meeting in November, 1900, steps were taken toward revision of the by-laws and a modern organization. These changes were effected at the following meeting in December, 1900: Five meetings are to be held each year, in February, April, June, October and December, at which special bureaus are to report. Hereafter the annual meeting will occur in December.

President, G. Forrest Martin, M.D. *Vice-President*, Clarence H. Leland, M.D. *Treasurer*, John H. Lambert, M.D. *Secretary*, G. L. VanDeursen, M.D., 17 Kirk St., Lowell.

NEIGHBORHOOD MEDICAL CLUB.

This Club was organized in the fall of 1897, in Roxbury, by the late Frederick W. Elliott, M.D., to bring together socially and professionally the active Homœopathic practitioners of Roxbury, Dorchester, Milton, Jamaica Plain and South Boston.

The meetings are usually held on the third Wednesday in each month from October to May, inclusive, at the Hotel Nottingham, Boston.

Secretary, J. Tucker Cutler, M.D. *Executive Committee*, S. H. Calderwood, M.D., Willard A. Paul, M.D., N. R. Perkins, M.D.

TWENTIETH CENTURY MEDICAL CLUB.

On November 10, 1897, the ladies of the Homœopathic medical profession of Boston organized this club for the study of the Materia Medica and matters relating to the practice of medicine, and the study of parliamentary rules and practice.

Meetings are held the first Wednesday of each month, Oct. to May, inclusive.

President, Clara E. Gary, M.D. *First Vice-President*, Mary L. Swain, M.D. *Second Vice-President*, Grace E. Cross, M.D. *Secretary*, Mary A. Pearce, M.D. *Treasurer*, Amelia Burroughs, M.D.

WORCESTER COUNTY HOMŒOPATHIC MEDICAL SOCIETY.

Organization was effected July 25, 1866. The meetings are held on the second Wednesday of February, May, August and Nov. A prosperous year is reported with an increase in the membership in 1901.

President, J. F. Luscombe, M.D., Fitchburg. *First Vice-President*, A. J. Atwood, M.D., Townsend. *Second Vice-President*, G. H. Wilkins, M.D., Palmer. *Secretary and Treasurer*, Frank R. Warren, M.D., 68 Pleasant St., Worcester. *Librarian*, A. E. P. Rockwell, M.D., Worcester. *Censors*, Edgar A. Fisher, M.D., Worcester, Amanda C. Bray, M.D., Worcester, Robert G. Reed, M.D., Woonsocket, R. I.

GENERAL HOMŒOPATHIC HOSPITALS IN MASSACHUSETTS.

MASSACHUSETTS HOMŒOPATHIC HOSPITAL.

For a history of the Hospital and its previous records see its Annual Reports, also Report of our Committee on Registration, etc., for 1890.

The greatly increased facilities have led to a large increase in the work done. In 1900 there were treated 2284 patients, an increase of 321 over 1899. Recently the daily census reached 175, and the Hospital can accommodate 200 cases.

The opening of the Maternity department has filled a long felt want, and already it is taxed to its utmost.

Within a decade the sugical department has greatly changed, for where once minor operations were numerous, now the capital operations lead. The improved facilities for operating are equal to or superior to any in New England.

During the past year the medical department has taken a new start, so that 465 cases were treated in 1900, and with the exception of the period when the soldiers were returning from the Cuban war, the daily census has been larger than formerly.

For a list of the staff members and detailed statistics you are referred to the forthcoming Annual Report of the Hospital.

WESTBOROUGH INSANE HOSPITAL.

Under the watchful eye of Dr. Geo. S. Adams, the Superintendent, the work of the Hospital goes on in a way that has borne the closest scrutiny of those who in the past have been somewhat antagonistic, and today the Westborough Hospital stands out clearly as the exponent of the Homœopathic system of treating the insane, ably demonstrating the wisdom of abandoning the so-called "chemical restraint."

During the year ending Sept. 30, 1900, there were 997 patients treated, with 343 cases admitted during the year.

The recoveries of curable cases admitted still stands high, 82%.

Already the Hospital is overcrowded, and steps have been taken toward the building of a series of cottages for a considerable number of the chronic cases.

We note with interest that our President, Dr. John L. Coffin, has been elected a member of the Board of Trustees.

HAMPDEN HOMŒOPATHIC HOSPITAL, SPRINGFIELD, MASS.

In October, 1900, this Hospital, the gift of Mr. D. B. Wesson, of Springfield, was opened to patients, and cared for 77 cases during the first six months of its history.

It was the former residence of Mr. Wesson, and was donated on condition that $10,000 be raised to equip it suitably. This was soon accomplished, and a long felt want among our colleagues in western Massachusetts is met.

STAFF.

Physicians: O. W. Roberts, M.D., Plumb Brown, M.D., F. M. Bennitt, M.D., Clara M. Sweet, M.D. *Consulting Physicians:* George G. Shelton, M.D., New York, George H. Smith, M.D., Holyoke, John P. Sutherland, M.D., Boston, A. M. Cushing, M.D., Springfield. *Assistant Physicians:* Clarice J. Parsons, M.D., James M. Gates, M.D., Alice E. Rowe, M.D. *Surgeons:* J. H. Carmichael, M.D., H. E. Rice, M.D. *Consulting Surgeons:* Sidney F. Wilcox, M.D., New York, Nathaniel W. Emerson, M.D., Boston. *Assistant Surgeons:* Robert F. Hovey, M.D., James B. Comins, M.D., Harry W. Green, M.D., Seth Ames Lewis, M.D. *Oculist and Aurist:* George Rhodes, M.D.

ESSEX COUNTY HOMŒOPATHIC HOSPITAL, SALEM, MASS.

This Hospital has been very recently organized and incorporated. One building has been purchased and another leased, for surgical and medical cases respectively.

STAFF.

Physicians: George E. Percy, M.D., David Y. Cohill, M.D., Frank A. Gardner, M.D., Arthur B. Ferguson, M.D. *Surgeons:* Charles W. Morse, M.D., William T. Hopkins, M.D. *Assistant Surgeons:* Fred DeF. Lambert, M.D., Mary R. Lakeman, M.D., John F. Valentine, M.D., Kate G. Mudge, M.D., Walter E. Bongartz, M.D., S. O. Pilling, M.D.

TABULAR VIEW OF JOINT-STAFF GENERAL HOSPITALS IN MASSACHUSETTS.

No.	NAME.	LOCATION.	Date of Incorp.	Date of open-ing	No. of beds.	Pa. treated last year.	Phys. on Staff.	Hom. mem-bers of staff.	Rule for div. of pa's.	Can priv. pa. be treated by Phys. not on staff?
1	Addison Gilbert Hospital	Gloucester	1889	1897	30	255	12	2	—	Yes
2	Brockton Hospital	Brockton	1890	1896	24	306	20	4	F	No
3	City Hospital of Quincy	Quincy	1889	1890	25	230	12	4	D	No
4	Lowell General Hospital	Lowell	1891	1893	40	346	23	9	A	—
5	Malden Hospital	Malden	1890	1892	50	306	16	4	B	No
6	Melrose Hospital	Melrose	1893	1894	22	238	15	5	C	No
7	Morton Hospital	Taunton	1888	1889	25	243	16	4	A	No
8	New England Baptist Hospital	Boston	1893	1893	24	325	11	4	C	Yes
9	Newton Hospital	Newton	1881	1886	150	998	30	14	G	Yes
10	R. S. Frost General Hospital	Chelsea	1894	1894	40	453	11	5	A	Yes
11	Somerville Hospital	Somerville	1891	1893	40	313	12	6	A	Yes
12	Whidden Memorial Hospital	Everett	1894	1897	16	132	8	1	C	Yes
			Total		486	4145	186	62		

Method of assigning patients.

A. Patient elects. Those not choosing are divided in alternation.
B. According to physician sending case. City cases in alternation.
C. Patient elects.
D. " " or according to physician sending case.
E. " " otherwise every third case goes to Homœopathic side.
F. " " " Executive Committee decides.
G. According to physicians sending case, or in alternation, except surgical cases.

JOINT-STAFF GENERAL HOSPITALS.

THE ADDISON GILBERT HOSPITAL, GLOUCESTER, MASS.

In accordance with the provisions of the bequest of the late Addison Gilbert of Gloucester, this Hospital was duly incorporated and opened for patients in 1897.

Two members of the staff serve together, for periods of two months. Those on duty attend to both medical and surgical cases.

Drs. Thomas Conant and George Morse are the Homœopathic physicians on the staff.

The number of patients treated thus far, are as follows :

	Medical.	Surgical.	Out-Patients,	Total.
Year ending May 31, '98,	40	73	63	176
" " " '99,	58	79	92	229
" " " '00,	65	113	77	255

BROCKTON HOSPITAL.

The first steps toward the establishing of this Hospital were taken at a meeting held March 14, 1890. Up to April 1, 1892, $23,000 had been raised. In April, 1894, a Hospital Fair was held, which added over $10,000 to the fund. The Hospital was formally opened on March 16, 1896.

The number of cases treated since this date is as follows:

Time.	Medical.	Surgical.	Total.
1896,	41	59	100
1897,	53	97	150
1898,	71	118	189
1899,	90	148	238
1900,	124	182	306

The Members of the Homœopathic profession on the staff are Drs. Daniel E. Brown, F. E. Constans and James P. Stedman. Dr. Horace Packard, of Boston, is a member of the Consulting staff.

CITY HOSPITAL OF QUINCY.

This was the gift of W. B. Rice, Esq., and was dedicated June 17, 1890. In about two months from that time it received and cared for a considerable number of those injured in the Quincy railroad accident. The Hospital has done excellent service, though not as large as some of the others reported upon.

In 1899 there were 202 patients treated, of which 112 were medical and 90 surgical. In 1900 it treated 230 cases.

Homœopathic Physicians on Staff.

Frank S. Davis, M.D., Charles W. Garey, M.D., H. C. Hallowell, M.D., E. R. Johnson, M.D.

LOWELL GENERAL HOSPITAL.

Since its opening in 1893 this institution has proven its great value in such a large manufacturing center. The following data from the annual report published in 1899 give the clearest idea of the character of the work done.

Year.	Medical.	Surgical.	Obstetrical.	Total. Admitted.
1895,	88	138	1	226
1896,	101	139	9	240
1897,	114	134	12	248
1898,	99	106	10	205
1899,	107	227	15	334
1900,	121	226	9	346

In addition to the above there is a largely attended out-patient department which will be reported among the Dispensaries. (see p. 272).

Homœopathic Members of the Staff.—1900.

Medical, F. A. Warner, M.D., E. H. Packer, M.D., Clarence H. Leland, M.D., Benj. S. Stephenson, M.D., Geo. L. Van Deursen, M.D. *Surgical*, G. Forrest Martin, M.D.

MALDEN HOSPITAL.

This Hospital was established largely by the gifts of Hon. E. S. Converse, of Malden, a loyal supporter, not only of Homœopathy but of numerous philanthropies.

Members of the Massachusetts Medical Society and the Massachusetts Homœopathic Medical Society, by the provisions of its charter "shall always have equal rights and privileges" in the treating of patients.

During the past year 306 patients were treated. There is at present no visiting surgeon of the Homœopathic School upon the staff.

Homœopathic Physicians on Staff.

W. B. Whiting, M.D., C. Maria Nordstrom, M.D., Frank A. Hodgdon, M.D., Carroll C. Burpee, M.D. *Consulting Surgeon,* N. W. Emerson, M.D., Boston.

MELROSE HOSPITAL.

Since it was first opened on Feb. 14, 1894, this institution has shown an excellent record of increasing efficiency, and increasing yearly census. It receives very liberal encouragement and financial support through various channels, prominent among which is the Melrose Hospital Guild.

During the year ending Nov. 14, 1900, there were treated 148 surgical cases, 54 medical cases and 18 obstetrical cases, a total of 238.

Members of the Staff must be members either of the Massachusetts Medical Society or of our own society.

Homœopathic Physicians on Staff.

Medical, H. W. Cain, M.D., Annie M. Selee, M.D., W. M. Townsend, M.D. *Surgical*, John Dike, M.D. *Consulting Surgeon*, N. W. Emerson, M.D., Boston.

MORTON HOSPITAL, TAUNTON, MASS.

This Hospital was established in June, 1888, largely through the gift of the residence and grounds of the late Gov. Marcus Morton by Mrs. Susan T. Kimball, and was opened on Jan. 4, 1889.

The service of the staff is arranged so that a member of each school is on duty all the time.

Total cases treated last year, 243.

Homœopathic Physicians on Staff.

J. W. Hayward, M.D., John A. Hunt, M.D., B. L. Dwinell, M.D., F. C. Walker, M.D.

NEW ENGLAND BAPTIST HOSPITAL.

This is the only joint-staff hospital in Boston that is under the patronage of any association of churches.

We are familiar with the high place held, for example, by the Presbyterian Hospital in New York and the Baptist Hospital of Chicago, but in our metropolis the various hospitals are chiefly conducted by trustees selected without reference to their religious affiliations.

This Hospital, located on Parker Hill Ave., is making an admirable record at the present, and has excellent facilities for operating and the care of both medical and surgical cases.

During the past year 325 cases were treated, and 212 in 1899. Any member of the Massachusetts Medical Society or the Massachusetts Homœopathic Medical Society may bring private cases to this hospital and treat them, provided adequate return is made for board and care. It is surely encouraging that this privilege is so much utilized, as shown by the fact that about 66.8% of the total income has been from this source.

Homœopathic Physicians on Staff.

Maurice W. Turner, M.D., Alonzo L. Kennedy, M.D., William P. Defriez, M.D. *Consulting Surgeon*, William F. Wesselhoeft, M.D.

NEWTON HOSPITAL.

The growth of this Hospital in size and efficiency since it was opened in June, 1886, has been phenomenal. Indeed the demands of late for increased facilities have exceeded the ability to keep pace. Beside the usual wards for medical, surgical and obstetrical cases, a large contagious ward has been filled during most of the past year.

It can be said with all truth that there is not a hospital of this character in New England that from its inception has enjoyed such loyal and substantial support from the community in every way. The names of many of its buildings and wards bear ample testimony to this fact. In this respect the City Government of Newton has coöperated admirably. Beside the Hospital Sunday which is always a source of assistance in many of the smaller hospitals in Massachusetts, this hospital has a somewhat unique helper in "Hospital Saturday," immediately preceding the former. The Wellesley and Boston Street Railway Co. gave to the Hospital all fares collected on that day in 1900.

A most interesting summary of the work and receipts of the Hospital since its opening will be found on p. 31 of the annual report for 1900. The average daily census for that year was 61.8.

Total cases treated in 1900:

Medical, 661. Surgical, 258. Obstetric, 42. Children born, 37. Total, 998.

So harmonious is the service that on motion of the colleagues of the other school, it was voted to divide the surgical service equally, so that during alternate terms of two months each this work is in charge of Henry P. Perkins, M.D., James F. Bothfeld, M.D., Geo. E. May, M.D.

In the medical service representatives of each school are on duty simultaneously.

Homœopathic Physicians on Staff.

Charles T. Cutting, M.D., George H. Talbot, M.D., S. A. Sylvester, M.D., E. P. Scales, M.D., F. S. Keith, M.D., C. H. Fessenden, M.D. *Consulting Staff*, Hiram L. Chase, M.D., N. Emmons Paine, M.D., Horace Packard, M.D., Howard P. Bellows, M.D., Frederick W. Payne, M.D.

RUFUS S. FROST GENERAL HOSPITAL, CHELSEA, MASS.

The founder of this Hospital, the late Rufus S. Frost, was deeply interested in all such philanthropies, and in the welfare of his fellow citizens. Immediately after its incorporation the Hospital was opened to patients and has done good service. One notable event was the successful treatment of a case of typhus fever in an isolated part of the contagious ward in March and April, 1898. This was the first case reported in the U. S. during the six previous years. The result was so good that not only did the patient recover, but no other cases resulted from it.

We quote from the last published report, for the year ending April 1, 1900. The cases admitted during the year are: Medical, 158. Surgical, 213. Contagious, 66. Obstetrical, 16. Total, 453.

A summary of the entire work of the Hospital since its inception will be found on p. 32 of the above report.

During that hospital year the staff has lost by death Dr. Wm. C. Cutler, one of its ablest men, and for many years a member of our Society.

Homœopathic Physicians on Staff.

Charles Leeds, M.D., James E. Blaisdell, M.D., Thomas W. Green, M.D., Charlotte A. Rollins, M.D., Frederick A. King, M.D.

SOMERVILLE HOSPITAL.

This institution was opened and the first patient admitted on May 12, 1893, since which it has received and treated 1854 house cases, beside treating a large number of out-patients. During the year ending May 1, 1900, 313 cases were treated, including 141 Medical and 148 Surgical cases. On p. 29 of above report will be found the summary of work since the Hospital was opened.

Homœopathic Physicians on Staff.

Robert L. Lane, M.D., Frank L. Newton, M.D., Roland A. Davis, M.D., Forrest Leavitt, M.D., H. Ashton Downs, M.D., Emma J. Peasley, M.D. *Assistants*, Anna B. Taylor-Cole, M.D., Mary B. Currier, M.D., Wesley T. Lee, M.D.

WHIDDEN MEMORIAL HOSPITAL, EVERETT, MASS.

This Hospital had its inception in the Everett Cottage Hospital Corporation, in May, 1894, and in November, 1896, was presented by its donor to the city of Everett. From its opening on April 15, 1897, to Jan. 1, 1901, 349 cases were admitted, of which number 132 were treated during 1900.

Dr. W. G. Hanson is the Homœopathic physician on the staff.

WALTHAM HOSPITAL.

While this is nominally a joint-staff hospital, it has not been included in the tabulation, since no service is regularly assigned to Dr. W. N. Emery, the member of our Society on the staff. He is called upon at any time to attend any cases electing Homœopathic treatment.

JOINT-STAFF SPECIAL HOSPITALS.

MASSACHUSETTS STATE SANATORIUM FOR CONSUMPTIVES.

This is the only special hospital conducted on the joint-staff plan, and the results attained throughout the wards are excellent. The last (second) annual report presented by our Dr. Herbert C. Clapp, one of the two attending physicians, gives much for the encouragement of physicians throughout the state.

During the year ending September 30, 1900, Dr. Clapp had 220 cases under his supervision. Of these, 132 were discharged as follows: Arrested or cured, 59. Improved, 49. Not improved, 22. Deaths, 3.

Of the incipient cases 64⅓% were apparently cured. These improved facilities, with the intelligent coöperation of patient and attendants are giving admirable results.

The detailed report by Dr. Clapp will be found in the N. E. Med. Gazette for January, 1901, p. 26.

HOMŒOPATHIC DISPENSARIES IN MASSACHUSETTS.

BOSTON HOMŒOPATHIC MEDICAL DISPENSARY.

Trustees.—1901.

President, John C. Haynes, *Vice-Presidents*, David B. Flint, R. S. Codman. *Secretary*, A. H. Powers, M.D. *Treasurer*, J. Wilkinson Clapp, M.D. Herbert C. Clapp, M.D., A. J. Baker-Flint, M.D., Miss Alice Ahlborn, N. H. Houghton, M.D., Erastus T. Colburn, J. P. Sutherland, M.D., Alonzo Boothby, M.D., S. H. Blodgett, M.D., Geo. H. Earl, M.D., J. Livingston Grandin, Mrs. Hannah P. Adams. *Executive Committee*, Alonzo Boothby, M.D., A. H. Powers, M.D., George H. Earl, M.D. *Superintendent*, N. H. Houghton, M.D.

Space forbids recording the Staff of the Dispensary and the various clinics. These data for the Harrison Ave. or main division of the Dispensary will be found in the Annual Announcement of the Medical School. (See Announcement for 1901, pp. 8, 9 and 18.)

The record of cases treated during the year ending Dec. 31, 1900, is as follows:

	New Patients.		Prescriptions.	
Central Dispensary, 14 Burroughs Place.				
Medical Department,	174	174	810	810
West End Branch, Charity Building.				
Men's Department,	615		1569	
Women's Department,	391		858	
Out-patients,	149		388	
	——	1155	——	2815
The Dispensary, 750 Harrison Ave.				
Medical Department,	2142		4261	
Surgical "	2191		5772	
Women's "	1210		4992	
Eye and Ear "	3440		8851	
Throat "	1009		3091	
Other Departments,	5328		17623	
Out-patients,	2133		8387	
	——	16444	——	46261
Total,		17773		49886

During the year there were 333 births in the Obstetrical out-patient department.

Your Committee feel justified in taking time and space to quote these figures in order to show the clinical facilities in the Dispensary alone which are afforded both to patients and the students of our Medical School.

LOWELL GENERAL HOSPITAL. OUT-PATIENT DEPARTMENT.

This department of the Hospital has made marked progress during the past two years as is shown by the following facts:

Year.	Medical Cases.	Surgical Cases.	Total.	Prescriptions.
1899,	557	64	621	1931
1900,	517	358	875	3476

A general clinic for medical, surgical and gynæcological cases is open daily, and an Eye and Ear clinic on Wednesday and Saturday.

The service is divided between the two schools, Monday, Wednesday and Friday being assigned to the Regulars, and Tuesday, Thursday and Saturday to the Homœopaths. There are six physicians, three of each school, and one oculist on the Staff. Those representing our School are George L. Van Deursen, M.D., Clarence H. Leland, M.D., John H. Lambert, M.D.

MEDICAL MISSION, 40 HULL STREET, BOSTON.

This work was inaugurated by Prof. Harriette J. Cooke in connection with the University Settlement at the North End on Oct. 14, 1894. The clinics have been held during most of this time in two small rooms at 40 Hull Street.

Dr. A. Howard Powers has been the Medical Director continuously, and two students from Boston University School of Medicine serve under him as Resident Physicians. About 600 house visits are made by these two students annually, and about 60 obstetrical cases are cared for.

At first, clinics were held three times weekly, but the growth was so rapid that daily clinics became a necessity. During the first year 448 cases were treated. During 1900 there were 2738 new cases treated, 2000 house visits made, and total prescriptions made of 7030.

Staff.

Director, A. Howard Powers, M.D. Charles W. Bush, M.D., Thos. E. Chandler, M.D., Alfred T. Dalrymple, M.D., D. D. Nalchajian, M.D. *Oculist*, David W. Wells, M.D.

ROXBURY HOMŒOPATHIC DISPENSARY,
1224 TREMONT ST., ROXBURY.

Since its incorporation and organization in 1887 this charity has met with varying circumstances, but more successes than failures, and at the present time is in a very flourishing condition. In addition to the usual clinical work, a Diet Mission is conducted each Tuesday, Thursday and Saturday, from October to June, from 12 to 1.

The food needed is contributed by the churches in Roxbury, both Protestant and Catholic.

Patients treated in the clinics during 1900:

Class.	New.	Old.	Total.
Medical,	758	594	1342
Surgical,	347	440	787
Eye and Ear,	209	561	770
Dental,	437		437
Vaccinations,	247		247
Totals,	1998	1595	3583

Staff.

Consulting, Wm. L. Jackson, M.D., S. H. Calderwood, M.D. *Medical*, W. Bryant Guy, M. D., Susan H. Gibbs, M.D., Sarah Merrick, M.D., Eulalie Abbott, M.D. *Surgical*, Charles S. Capelle, M.D. *Eye and Ear*, J. M. Hinson, M.D., F. A. Bardwell, M.D. *Pharmacist*, Sarah Merrick, M.D. *Resident Physicians*, Two students from B. U. S. of M.

SALEM HOMŒOPATHIC DISPENSARY.

This new charity has recently completed its first year, with a record of 1,800 prescriptions. Clinics are held each week day from 11 to 12 A. M. in the vestry of the Calvary Baptist Church, Salem.

Staff.

George E. Percy, M.D., Mary R. Lakeman, M.D., David Y. Cohill, M.D., Frank A. Gardner, M.D., Charles W. Morse, M.D., Kate G. Mudge, M.D.

WORCESTER HOMŒOPATHIC DISPENSARY.

This work is conducted at 44 Waverley St., Worcester. It was organized in 1880 and incorporated in 1885. Clinics are held daily, except Sundays, from 11 to 12 A. M.

Staff.

J. M. Barton, M.D., Edith L. Clarke, M.D., Amanda C. Bray, M.D., E. R. Leib, M.D., Edwin A. Clarke, M.D., A. E. P. Rockwell, M.D.

New cases treated last year, 730.

MISCELLANEOUS INSTITUTIONS.

CULLIS' CONSUMPTIVES HOME, GROVE HALL, DORCHESTER.

In 1860 the late Charles Cullis, M.D., who joined our Society in 1858, founded this "Home," and opened it on Vernon St., Roxbury. It was subsequently removed to Grove Hall. The cases admitted are mostly far advanced, though many make remarkable improvement and a few apparently recover. The new "Home" on Blue Hill Ave., near Franklin Park, which was opened in the summer of 1897, affords greatly improved facilities for these patients.

From the beginning this charity has gone forward depending solely on the voluntary contributions of its friends.

Cases treated:

Time.	Improved.	Not Improved.	Died.	Remaining.	Total.
Oct. 1, '97, to Sept. 30, '99,	28	72	107	30	237
Year ending Sept. 30, '00,	25	12	54	32	123

The staff consists of the following consultants:

Consulting Physician. Herbert C. Clapp, M.D. *Attending Physicians,* S. H. Calderwood, M.D., J. Tucker Cutler, M.D., Percy G. Browne, M.D. The House Physician is a medical student from B. U. S. of M.

N. E. MORAL REFORM SOCIETY, TALITHA CUMI HOME.

The work is carried on in the new and commodious quarters at 204 and 206 West Brookline St., Boston, opened in 1893. The Society was founded in 1836, and has the following officers:

President, Caroline E. Hastings, M.D. *Secretary and Treasurer,* Miss C. M. Otis. *Attending Physician,* Julia Morton Plummer, M.D.

The object of the "Home" is to receive and care for unmarried girls during and after the time of their physical exigency, and especially to surround them with such influences at this critical period of their lives that it shall be the beginning of a "better life." While a moderate charge is made to those able to pay, homeless and penniless girls receive the same care.

The interest and coöperation of the members of this Society is invited.

AYER HOME FOR YOUNG WOMEN AND CHILDREN, LOWELL, MASS.

The Home was incorporated and opened in 1875. It has a capacity of 50 beds, and is supported entirely by endowments and donations. The medical treatment is Homœopathic only.

Attending Physician, G. Forrest Martin, M.D.

OLD LADIES' HOME, LOWELL, MASS.

The medical service is divided between the two schools equally.
Physician, (Homœopathic) Frederick A. Warner, M.D.

In addition to the foregoing there are a number of important private Hospitals, Sanitariums, etc., among which mention should be made of the Boothby Surgical Hospital, Boston; St. Botolph Hospital, Boston; Framingham Nervine, Ellen L. Keith, M.D., Exec. Officer; Newton Nervine, N. Emmons Paine, M.D., Exec. Officer; Wellesley Nervine, E. H. Wiswall, M.D., Exec. Officer; Hahnemann Hospital, Worcester, John K. Warren, M.D., Exec. Officer; Locust Grove Asylum, Sandwich, G. E. White, M.D., Physician; Walter Baker Sanitarium, Boston, Charles J. Douglas, M.D., Exec. Officer; Farrington Club, Salem, for the study of Materia Medica.

Within the 45 years since our Society was incorporated, these numerous and efficient organizations have been formed, many of which have already assumed stately proportions. What will have been achieved by all these in the next quarter century, we can only venture to predict, but it is safe to say that upon the solid foundation laid by the pioneers of this Society in those early days, whose example and perseverance we may well follow, larger and grander achievements will arise, limited only by the ability and energy of all participants.

Let us not forget that of the more than 700 Homœopathic physicians in this Commonwealth, less than one-half are enrolled among our active members. Surely we, as members of the Society, have an imperative duty to perform.

Respectfully submitted,

F. P. BATCHELDER, M.D., *Chairman*,
T. M. STRONG, M.D.,
W. B. FRENCH, M.D.,
} *Committee.*

LIST OF MEMBERS.

OCTOBER, 1901.

Names of Life Members are printed in Small Capitals.

Year.	Name.	Office Hours.	Residence.
1901	Abbott, Solon	8 to 9 a.m., 1 to 2, 7 to 8 p.m.	10 Dean Ave., Franklin
1890	Adams, George S.		Insane Hospital, Westborough
1866	AHLBORN, HENRY C.	8 to 9.30 a.m., 3 to 5 p.m.	258 Marlboro St., Boston
1898	Allard, Frank E.	9 to 10 a.m., 3 to 5 p.m.	685 Boylston St., Boston
1898	Allen, Edward E.	Until 9 a.m., 2 to 4, 7 to 8 p.m.	385 Main St., Charlestown
1892	Allen, Lamson	Until 9 a.m., 2 to 4, 7 to 8 p.m.	20 Elm St., Worcester
1899	Amsden, Henry H.	2 to 4, 7 to 8 p.m.	27 Park St., Attleboro
1856	ANGELL, HENRY C.	11 a.m. to 2 p.m.	16 Beacon St., Boston
1890	Appleton, Lucy	8 to 9 a.m., 2 to 4 p.m.	160 W. Brookline St., Boston
1901	Arnold, Jeannie O.	2 to 3 p.m.	101 Brown St., Providence, R. I.
1859	BABBITT, WARREN M.	9 to 10 a.m., 5 to 6 p.m.	Main St., Randolph
1890	Babcock, Daniel A.	8 to 9 a.m., 2 to 4, 7 to 8 p.m.	279 No. Main St., Fall River
1879	Babcock, Francis L.	7 to 8 a.m., 12 to 2, 6 to 8 p. m.	15 Walnut St., Dedham
1895	Barker, Emily H. J.	11 to 12.30, 4 to 5.30 p.m.	Washington St., Wellesley
1894	Barnes, William E.	Until 9 a.m., 2.30 to 4, 6.30 to 8 p.m.	432 Columbia Road, Dorchester
1891	Barstow, Benjamin P.	4 to 5 p.m.	Kingston
1872	BARTON, J. MARCUS	2 to 4, 6 to 8 p.m.	796 Main St., Worcester
1900	Bassett, Alice H.	Mon., Wed. and Fri., 11 to 1, Tues., Thurs. and Sat., 2 to 4 p.m.	2 Commonwealth Ave., Boston
1894	Batchelder, Frederick P.	2 to 4 p.m., Tues., Fri. and Sun., 4 to 5 p.m.	411 Massachusetts Ave., Boston

Year.	Name.	Office Hours.	Residence.
1885	Bell, James B.	2 to 5 p.m.	178 Commonwealth Ave., Boston
1878	Bellows, Howard P.	10 to 12 a. m., also Tuesdays 4 to 6 p. m.	220 Clarendon St., Boston
1892	Bennett, John H.	8 to 9 a.m., 2 to 4, 7 to 8 p.m.	255 High St., Pawtucket, R. I.
1891	Bennitt, Francis M.	2 to 4, 7 to 8 p.m.	137½ State St., Springfield
1880	Blaisdell, James E.	1 to 3, 6 to 8 p.m.	Washington Ave., Chelsea
1882	Bliss, George D.	Until 9 a.m., 3 to 4; 7 p.m.	151 Adams St., Dorchester
1888	Blodgett, Stephen H.	11 to 12 a.m., 7 p.m. Sun. 9 a.m.	So. Lincoln and 419 Boylston St., Boston
1887	Bongartz, Walter E.	1 to 3, 7 to 9 p.m. Sun. 2 to 4 p.m.	Cabot and Pond Sts., Beverly
1895	Bond, Aaron J.	8 to 9 a.m., 3 to 4, 7 to 8 p.m.	6 Center St., Adams
1900	Booth, Anthony F.	2 to 5 p.m. daily.	12 Wabon St., Roxbury
1868	BOOTHBY, ALONZO	12 to 2 p. m.	3 Worcester Sq., Boston
1889	Bosworth, John W.	8 to 9 a.m., 1 to 2.30, 6 to 7 p.m.	765 South St., Roslindale
1892	Bothfeld, James F.	Until 9 a.m., 2 to 4, 7 to 8 p.m.	148 Church St., Newton
1898	Boyce, Alvin	1 to 3, 7 to 8 p.m.	Main St., West Medway
1900	Boyd, Herbert D.	Until 9 a.m., 1 to 3 p.m.	370 Columbus Ave., Boston
1885	Brackett, Humphrey F.	Until 9 a.m., Tues., Fri. and Sun., 2 to 3, 7 to 8 p.m.	230 Washington St., Brighton
1901	Braley, Henry H.	1 to 3, 6.30 to 8 p. m.	Main St., Concord
1897	Bray, Amanda C.	2 to 4, 7 to 8 p.m.	4 Wellington St., Worcester
1900	Bridge, Emma F.	2 to 5 p.m.	Circuit Road, Brookline
1891	Briggs, J. Emmons	2 to 4 p.m.	206 Huntington Ave., Boston
1891	Brown, Daniel E.	9 to 9.30 a.m., 2 to 3, 7 to 8 p.m. Sun., Tues. and Thurs. evenings excepted.	95 Main St., Brockton
1900	Browne, Percy G.	4 to 5, 7 to 8 p. m.	28 Saratoga St., E. Boston
		2 to 3 p.m.	Winthrop
1897	Burpee, Carroll C.	Until 9 a. m., 2 to 3, 6 to 7 p. m.	5 Garnet St., Malden
1900	Burroughs, Amelia	9 to 11 a.m., 2 to 4 p.m.	31 Massachusetts Ave., Boston
1900	Bush, Charles W.	Until 9.30 a.m., 1 to 3, 6 to 7 p.m.	103 Court St., Newtonville
1897	Butterfield, George W.	Until 9 a.m., 1 to 3, 6 to 8 p.m.	21 Yale Ave., Wakefield

Year.	Name.	Office Hours.	Residence.
1899	Cahill, Eliza B.	2 to 4 p.m., except Saturday and Sunday.	Hotel Westminster, Boston
1887	Calderwood, Samuel H.	Until 9 a.m., 1 to 3, 7 to 8 p.m.	221 Warren St., Roxbury
1884	Carpenter, Edward A.	8 to 9 a.m., 12, 5 to 7 p.m.	7 Linnæan St., Cambridge
1875	CARVILL, ALPHONSO H.	8 to 9 a.m., 2.30 to 3.30, 7 to 8 p. m., except Thursdays.	28 Highland Ave., Somerville
1893	Chalmers, Robert	1 to 3, 7 to 8 p. m.	Woburn
1901	Chandler, Thomas E.	Until 9 a.m., 3 to 5, 6.30 to 7 30 p.m.	13 Sparhawk St., Brighton
1876	Chase, Herbert A.	Until 9 a.m., 5 to 7 p.m.	950 Massachusetts Ave., Cambridgeport
1856	CHASE, HIRAM L.	2 to 4 p.m.	924 Massachusetts Ave., Cambridgeport
1878	Chase, Joseph, Jr.	1 to 3.30, 6 to 7.30 p.m.	East Weymouth
1893	Childs, Helen S.	Until 9 a.m., 3 to 5 p.m.	454 Centre St., Jamaica Plain
1879	Church, Adaline B.	9.30 a.m. to 12.30 p.m.	102 Huntington Ave., Boston
1879	Church, Benjamin T.	Until 8 a.m., 1.30 to 2.30, 6 to 7 p.m.	Winchester
1871	CLAPP, HERBERT C.	Until 9.30 a.m., 2.30 to 4.30 p.m.	334 Commonwealth Ave., Boston
1877	CLAPP, J. WILKINSON		10 Park Sq., Boston
1897	Clarke, Edwin A.	1 to 4 p.m.	10½ High St., Worcester
1900	Clarke, Henry L.	Until 9.30 a.m., 1.30 to 3, 7 to 8 p.m.	3 Punchard St., Andover
1890	Clarke, Mortimer H.	Until 9.30 a.m., 5 to 6 p.m.	Auburndale
1882	Clements, Lydia R.	No office hours.	11 Davis Ave., Brookline
1880	Cobb, Harriet H.	8 to 9 a.m., 3 to 5 p.m.	1626 Massachusetts Ave., Cambridge
1880	Coffin, John L.	10 a.m. to 12 30 p. m.	229 Berkeley St., Boston
1899	Colburn, Frederick W.	2 to 4 p.m.	35 Newbury St., Boston
1872	COLBY, EDWARD P.	12 to 3 p.m.	845 Boylston St., Boston
1900	Colby, William M.	Until 9 a.m., 12 to 1, 6.30 to 7.30 p.m.	287 Beacon St., W. Somerville
1891	Coleman, Ellenwood B.	Until 9 a.m., 6 to 8 p.m.	Nantucket
1892	Constans, Frank E.	2 to 4, 7 to 8 p.m.	7 Main St., Brockton
1871	CONANT, THOMAS	8 to 9 a.m., 1 to 3, 6.30 to 7.30 p.m.	36 Pleasant St., Gloucester

Year.	Name.	Office Hours.	Residence.
1901	Coon, Marion	3 to 5 p.m.	Hotel Ilkley, Boston
1897	Copeland, Elmer H.	8 to 9 a.m., 2 to 3, 7 to 8 p.m.	70 Elm St., Northampton
1892	Coy, S. Willard	1 to 3, 7 to 8 p. m.	23 Princeton St., East Boston
1901.	Crane, Clarence	Until 9 a.m., 6 to 8 p.m.	230 Huntington Ave., Boston
1896	Crisand, Carl	1.30 to 3, 6 to 7.30 p. m. Sun. 2 to 4 p.m.	2 Charlotte St., Worcester
1895	Crocker, H. Clinton	8 to 9 a.m., 2 to 3, 6.45 to 7.45 p. m. Sun. 2 to 3 p.m.	67 Common St., Providence, R. I.
1893	Cross, Grace E.	8 to 9 a.m., 1 to 3 p.m.	581 Broadway, So. Boston
1866	CROSS, HIRAM B.	8 to 9 a.m., 2 to 3 p.m.	21 Seaverns Ave., Jamaica Plain
1880	Cummings, M. Louisa	1 to 4 p.m.	178a Tremont St., Boston
1899	Currier, Mary B.	Until 9 a.m., 4 to 6 p.m.	191 Broadway, Somerville
1866	CUSHING, ALVIN M.	7 to 8 a.m., 1 to 3, 6 to 8 p.m. Sun. 5 p.m.	137½ State St., Springfield
1897	Cushman, Mary Floyd	Until 10 a.m., 12 to 2, 5 to 7 p.m.	Castine, Maine
1900	Cutler, J. Tucker	8 to 9 a.m., 2 to 3, 7 to 8 p.m.	20 Crawford St., Roxbury
1901	Cutting, Charles T.	Until 9.30 a.m., 2 to 3, 6 to 8 p.m.	66 Highland Ave., Newtonville
1900	Dalrymple, Alfred T.	2 to 4, 7 to 9 p.m.	171 K. St., So. Boston
1885	Damon, Newcomb L.	8 to 9 a.m., 2 to 3.30, 6 to 7 p.m.	405 Washington St., New Dorchester
1899	Davis, Anna B.	10 a.m., to 1 p.m.	2 Commonwealth Ave., Boston
1880	Davis, Frank S.	Until 9 a.m., 2 to 3, 6.30 to 7.30 p.m.	5 Elm St., Quincy
1892	Davis, Frederick A.	9 to 10 a.m., 3 to 5, 7 to 8 p.m.	80 Huntington Ave., Boston
1895	Davis, Roland A.	Until 9 a.m., 2 to 4, 6.30 to 7.30 p.m.	282 Medford St., East Somerville
1885	Defriez, William P.	2 to 4 p.m.	537 Washington St., Brookline
1858	DENNETT, GEORGE W.	8 to 10 a.m., 2 to 3.30, 6.30 to 8.30 p.m.	South Framingham
1885	Devereaux, Jane S.	8 to 9 a.m., 2 to 4, 7 to 8 p.m.	Marblehead
1870	DICKERMAN, SILAS B.	Until 9 a. m., 2 to 3, 6.30 to 8 p.m.	Abington
1899	Diemar, Lena H.	8 to 9 a.m., 2 to 4 p.m.	1686 Massachusetts Ave., Cambridge
1896	Dike, John	1 to 3, 6 to 7.30 p.m., Sun. excepted.	112 West Emerson St., Melrose
1901	Dodge, Frederick W.	1 to 3, 6 to 7 p.m.	139 W. River St., Hyde Park

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1894	Downs, H. Ashton	Until 9 a.m., 2 to 3, 7 to 8 p.m.	20 Dartmouth St., Somerville
1901	Douglas, Charles J.	Until 1 p.m., and evenings.	524 Warren St., Roxbury
1894	Dunn-Cary, Jennie S.		14 Weld Ave., Roxbury
1886	Dwinell, Byron L.	2 to 3 p.m.	Taunton
1885	Earl, George H.	3 to 5 p.m.	153 Newbury St., Boston
1890	Eaton, Samuel L.	8 to 9 a.m., 1 to 3, 6 to 8 p.m.	340 Lake Ave., Newton Highlands
1893	Emerson, Frederick L.	Until 9 a.m., 1 to 2.30, p.m., Sun. excepted.	50 Hancock St., Dorchester
1882	Emerson, Nathaniel W.	2 to 4 p.m.	685 Boylston St., Boston
1893	Emery, W. Newell	2 to 4, 7 to 9 p.m.	749 Main St., Waltham
1900	Estes, Florella	2 to 4, 7 to 8 p.m.	Trinity Court, Boston
1895	Farley, William C.	2 to 4, 7 to 8 p.m.	8 East Haverhill St., Lawrence
1901	Farnum, Mary R.		45 Water St., Penacook, N. H.
1901	Fernald, H. E.	1 to 2, 6.30 to 7.30 p.m.	Elm St., Cohasset
1890	Fick, Herman A.	10 a.m., 1 to 3, 7 to 8 p.m.	109 Warren Ave., Boston
1887	Field, Susan Hammond	9 to 10 a.m., 2 to 4 p.m.	90 W. Springfield St., Boston
1896	Fisher, Edgar A.	Until 9 a.m., 2 to 4, 7 to 8 p.m.	121 Pleasant St., Worcester
1900	Flanders, Walter H.	Until 9 a.m., 5 to 7 p.m.	22 Hillside Ave., Melrose
1869	FLETCHER, WILLIAM K.	6 to 8 p.m.	381 Cutter Sq., W. Somerville
1876	FLINT, A. J. BAKER	10 a.m. to 1 p.m.	102 Huntington Ave., Boston
1875	FORBES, GEORGE F.	8 to 10 am., 2 to 4, 7 to 8 p.m.	17 Elm St., Worcester
1879	Foss, David	12 to 3, 6 to 7 p.m.	5 Spring St., Newburyport
1861	FRENCH, ALFRED J.	Until 9 a.m., 1 to 3 p.m.	17 Valley St., Lawrence
1892	French, Winslow B.	Until 9 a.m., 2 to 3; 7 p.m.	11 Columbus Sq., Boston
1899	Fuller, Solomon C.		Insane Hospital, Westborough
1878	Gale-Warren, Mary K.	8 to 10 a.m., 2 to 4 p.m.	124 Huntington Ave., Boston
1890	Gannon, Annie M.	3 to 5 p.m.	193 Salem St., Malden
1888	Gardner, Frank A.	1 to 3, 7 to 8 p.m.	23 North St., Salem
1893	Garey, Charles W.	9 a.m., 1 to 3, 6 to 8 p.m.	198 Hancock St., Quincy

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1887	Gary, Clara E.	9 a.m. to 1 p.m., Sun. excepted.	416 Marlboro St., Boston
1900	Gay, Ellen Hutchinson	1 to 3 p.m.	354 Mass. Ave., Boston
1887	Glazier, Frederick P.	2 to 4, 6 to 7.30 p.m.	12 Lincoln St., Hudson
1894	Gleason, Charles S.	Until 9 a.m., 1 to 2, 7 to 8 p.m.	Wareham
1901	Graves, Walter J.	1 to 3, 6.30 to 7.30 p.m.	The Peabody, Ashmont
1895	Green, Thomas W.	2 to 4, 7 to 9 p.m.	302 Chestnut St., Chelsea
1900	Griffith, Thomas R.	8 to 9 a.m., 2 to 3, 7 to 8 p.m.	391 Harvard St., Cambridge
1891	Grow, Timothy R.	7 to 9 a.m., 2 to 4, 6 to 7.30 p.m.	138 Chestnut St., Lynn
1891	Hale, Edwin E.	2 to 4, 7 to 9 p.m.	Washington St., North Attleboro
1879	Hall, Charles B.	7 to 9 a.m., 1 to 3 p.m.	20 Broadway, Rockport
1885	Halsey, Frederick W.	Until 9 a.m., 1 to 3 p.m.	272 Newbury St., Boston
1897	Hammond, Allen D.	2 to 4, 7 to 8 p.m.	863 No. Main St., Brockton
1885	Hanson, William G.	1 to 3, 7 to 8 p.m.	27 Norwood St., Everett
1900	Hartley, R. Agnes	8 to 10 a.m., 2 to 4, 6 to 8 p. m.	46 Forest St., Fall River
1900	Haskell, Lyman G.	Until 9 a.m., 1 to 3, 6 to 7 p.m.	335 Centre St., Jamaica Plain
1874	HASTINGS, CAROLINE E.	Until 9 a.m., 12.30 to 3 p.m. Wednesdays excepted 6 to 7 p.m.	160 Huntington Ave., Boston
1871	HATHAWAY, WILLIAM F.	8 to 9 a.m., 6.30 to 7.30 p.m.	Washington St., Weymouth
1897	Haub, Augustine C.	2 to 4 p.m.	Parker House, Boston
1867	HAYWARD, JOSEPH W.	Boston, 11 to 12 a.m. Taunton, 3 to 4 p.m.	19 Garrison St., Boston, and Taunton
1896	Haywood, George W.	1 to 3, 6.30 to 7.30 p.m.	45 Hanover St., Lynn
1890	Higgins, Henry R.	Until 9 a.m., 4 to 6 p.m.	12 Harvard Ave., Allston
1891	Hill, Lucy C.	8 to 9 a.m., 2 to 4, 7 to 8 p.m.	492 No. Main St., Fall River
1894	Hill, Noble H.	9 to 10 a.m., 2 to 4; 7 p.m.	35 Huntington Ave., Boston
1898	Hinson, J. Miller	10 to 11 a.m., 3 to 4 p.m.	601 Boylston St., Boston
1897	Hodgdon, Frank A.	2 to 4, 7 to 9 p.m	83 Salem St., Malden

Year.	Name.	Office Hours.	Residence.
1886	Hodgson, Mary C.	9 to 10 a.m., 1 to 3 p.m.	17 Warren St., Stoneham
1866	HODGSON, RICHARD	8 to 9 a.m., 1 to 3, 7 to 9 p.m.	17 Warren St., Stoneham
1870	HOLT, EDWARD B.	2 to 4, 7 to 8 p.m.	Shattuck St., Lowell
1892	Hopkins, William T.	1 to 3, 7 to 9 p.m.	65 Broad St., Lynn
1895	Hornby, Mary S.	2 to 4, 7 to 8 p.m.	1 Monadnock St., Dorchester
1900	Horr, Albert W.	11 a.m. to 3 p.m. Mondays and Thursdays, 2 to 4 p.m.	14 Beacon St., Boston
1898	Houghton, N. H.	8 to 9 a.m., 1.30 to 3.30, 6 to 7.30 p.m.	867 Boylston St., Boston
1899	Howard, Alonzo G.	8 to 9 a.m., 1 to 3 p.m.	Centre St., W. Roxbury
1899	Howard, Charles T.	8 to 9 a.m., 4 to 6 p.m.	53 Mt. Auburn St., Watertown
1901	Hubbell, Adelbert M.	1 to 3, 7 to 8 p.m. Sundays 1 to 3 p.m. only.	107 Winter St., Haverhill
1888	Hunt, Charles R.	8 to 9 a.m., 2 to 4, 7 to 8 p.m.	474 County St., New Bedford
1900	Hunt, John A.	Until 9 a.m., 1 to 3, 7 to 8 p.m.	89 Weir St., Taunton
1886	Hunt, L. Judson	Until 9 a.m., 2 to 4, 7 to 8 p.m.	1513 Washington St., Boston
1878	Jackson, William L.	8 to 9.30 a.m.	76 Dudley St., Roxbury
1899	James, Lucille A.	Until 9 a.m., 1 to 4 p.m.	Danielson, Conn.
1891	Jenness, Sarah A.	Until 10 a.m., 1 to 3 p.m.	741 Tremont St., Boston
1891	Jewett, Howard C.	9 to 10 a.m., 7 to 8 p.m. Sun. 4 to 5 p.m.	121 Merrimack St., Haverhill
1900	Johnson, Elmon R.	8 to 9 a.m., 2 to 3, 6.30 to 7.30 p.m.	37 Newport Ave., Wollaston
1899	Jones, Everett	8 to 9 a.m., 2 to 3, 6.30 to 7.30 p.m.	1618 Beacon St., Brookline
1892	Keith, Ellen L.		Framingham Nervine, Winter St., Framingham
1876	KENNEDY, ALONZO L.	8 to 10 a.m., 3 to 5 p.m. Sun. 5 to 6 p.m.	286 Newbury St., Boston
1886	Kimball, L. Houghton	8 to 9 a.m., 2 to 4, 6.30 to 7.30 p.m.	15 Elm Hill Ave., Roxbury.
1886	Kimball, Leonard M.	8 to 9 a.m., 3 to 6 p.m.	533 Columbus Ave., Boston
1883	Klein, August A.	1 to 4, 6.30 to 7.30 p.m.	2 Rutland St., Boston
1896	Knight, Edwin A.	8 to 9 a.m., 5 to 6 p.m.	405 Cherry St., W. Newton
1891	Krauss, James	1 to 3 p.m.	439 Boylston St., Boston, and Malden
1860	KREBS, FRANZ H.	9 to 11 a.m., 3 to 5 p.m. Sun. 3 to 6 p.m. and evenings.	42 Union Park, Boston

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1900	Lakeman, Mary R.	2 to 4, 7 to 8 p.m.	17 North St., Salem
1901	Lambert, Fred DeForest	2 to 4, 7 to 8 p.m.	33 Summer St., Salem
1900	Lambert, John H.	9 to 10 a.m., 2 to 4 p.m. Mon., Wed. and Sat. 7 to 8.30 p.m.	202 Merrimack St., Lowell
1880	Lane, Robert L.	7 to 9 a. m., 1 to 3, 7 to 9 p.m.	177 Walnut St., Somerville
1899	Lee, Wesley T.	8 to 9 a.m., 3 to 5; 7 p.m.	258 Broadway, Somerville
1879	Leeds, Charles	1 to 3, 7 to 8 p.m.	1 Crescent Ave., Chelsea
1901	Lewis, Seth Ames	Until 9 a.m., 2 to 4, 7 to 8 p.m.	73 No. Main St., Springfield
1901	Lieb, Edwin R.	8 to 9 a.m., 2 to 4, 7 to 8 p.m.	49 Pleasant St., Worcester
1881	Leland, Clarence H.	8.30 to 9.30 a.m., 1.30 to 3.30, 7 to 9 p.m.	202 Merrimack St., Lowell
1880	Leslie, Freeland D.	2 to 4 p.m.	Randolph Ave., Milton
1874	LIBBY, CHARLES A.		Portland, Me.
1882	Lindsay, Joseph F.		The Warren, Roxbury
1888	Little, Harry J.	1 to 2 p.m.	Norwell
1900	Loring, Benjamin T.		Mass. Homœopathic Hospital, Boston
1882	Macdonald, Angus	8 to 10 a.m., 2 to 5 p.m.	124 W. Concord St., Boston
1895	Mack, Helen G. F.	11 to 2, 4 to 6 p.m.	149a Tremont St., Boston
1886	Mann, Martha E.	8 to 9 a.m., 2 to 5 p.m.	2 Commonwealth Ave., Boston
1900	Mann, William O.		Massachusetts Homœopathic Hospital, Boston
1897	Martin, George Forrest	2 to 4 p.m. daily, 7 to 9 p.m. Mon. and Sat.	17 Kirk St., Lowell
1899	Mason, Gilbert M.	Until 9 a.m., 1.30 to 3, 7 to 8 p.m.	208 Neponset Ave., Dorchester
1891	May, George E.	Until 9 a.m., 4 to 5 p.m.	Institution Ave. and Beacon St., Newton Centre
1901	McCarthy, Francis H.	Until 9 a.m., 2 to 4, 7 to 8 p.m.	20 Joy St., Boston
1900	McGovern, C. Elizabeth	10 a.m. to 2, 4 to 6 p.m.	1191 Washington St., New Dorchester
1900	Merrill, Theodore C.	Until 9 a.m., 1 to 2, 6.30 to 7.30 p.m.	Smith and Common Sts., Providence, R. I.
1901	Miller, Edward R.	12 to 2.30, 6 to 8 p.m.	63 Merriam Ave., Leominster
1900	Montague, Charles E.	8 to 9 a.m., 2 to 3, 6 to 7.30 p.m.	26 Chestnut St., Wakefield
1885	Moore, J. Herbert	8 to 9 a.m., 4 to 6 p.m.	1339 Beacon St., Brookline
1898	Morris, Frances M.	9 to 10 a.m., 2 to 4 p.m.	138 Marlboro St., Boston

Year.	Name.	Office Hours.	Residence.
1901.	Morse, Abby Swan	8 to 9 a.m., 2 to 4, 7 to 8 p.m.	22 Dale Ave., Gloucester
1891	Morse, Charles W.	2 to 3, 7 to 8 p.m.	131 Essex St., Salem
1875	MORSE, GEORGE	7 to 8 a.m., 2 to 4, 7 to 8 p.m.	22 Dale Ave., Gloucester
1891	Mosher, Mary E.	2 to 5 p.m.	719 Boylston St., Boston
1892	Mudge, Kate G.	1 to 3, 7 to 8 p.m., Wed. excepted.	309 Essex St., Salem
1900	Mulliner, Mary R.	1 to 2 p.m.	201 Clarendon St., Boston
1878	Murdock, Edward A.	Until 9 a.m., 6 to 8 p.m.	22 Pleasant St., Spencer
1901	Neale, Lillian B.	3 to 5 p.m.	138 Marlboro St., Boston
1901	Newman, Elizabeth B.	8 to 9 a.m., 3 to 5, 7 to 8 p.m.	Belmont
1900	Newton, Carrie E.	9 to 10 a.m., 3 to 5 p.m.	Fayville
1888	Newton, Frank L.	8 to 9 a.m., 2 to 4, 7 to 8 p.m.	147 Highland Ave., Somerville
1877	NICHOLS, CHARLES L.	8 to 9 a.m., 2 to 4 p.m. Sun. 3 to 4 p.m.	38 Cedar St., Worcester
1887	Nordstrom, C. Maria	8 to 9 a.m., 1.30 to 3, 6 to 7 p.m.	47 Washington St., Malden
1880	Packard, Horace	By appointment.	470 Commonwealth Ave., Boston
1882	Packer, Edmund H.	9 to 10 a.m., 2.30 to 4, 7 to 9 p.m. Sun. 3 to 4 p.m. Wed. evening excepted.	Shattuck St., Lowell
1880	Page, Charlotte E.	2 to 4 p.m.	Spruce St., Braintree
1885	Paine, N. Emmons	Until 11 a.m.	West Newton
1890	Palmer, Anna Chipman	2 to 4 p.m.	Houston Ave., Mattapan
1899	Parker, Ralph Walter	9.30 to 10 a.m., 2 to 4, 7 to 9 p.m.	53 Central St., Lowell
1892	Patch, Frank W.	8 to 9 a.m., 1 to 3 p. m.	58 Union Ave., South Framingham
1900	Paul, Willard A.	Until 9 a.m., 3 to 4, 6.30 to 7.30 p.m.	9 Standish St., New Dorchester
1874	PAYNE, FREDERICK W.	11 to 1, 2 to 5 p.m.	162 Boylston St., Boston
1863	PAYNE, JAMES H.	8 to 10 a.m., 2 to 4 p.m.	344 Commonwealth Ave., Boston
1879	Payne, John H.	8.30 to 10 a.m., 2 to 4 p.m.	Pierce Building, Copley Sq., Boston
1900	Pearce, Mary A.	9 to 10 a.m., 2 to 4, 7 to 8 p.m. Thursday evenings excepted.	396 Washington St., Dedham
1887	Pearson, Mary Morey	8 to 9 a.m., 2 to 4, 7 to 9 p.m.	361 Massachusetts Ave., Boston

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1895	Pease, Ella G.	Until 10 a.m. and by appointment.	214 Commonwealth Ave., Boston
1893	Peasley, Emma J.	1 to 2.30 p.m.	153 Newbury St., Boston
1899	Percy, David T., Jr.	2 to 4, 7 to 8 p.m	11 Water St., Arlington
1882	Percy, Frederick B.	2 to 4 p.m.	Aspinwall Ave., Brookline
1880	Percy, George E.	2 to 4, 7 to 8 p.m.	359 Essex St., Salem
1891	Perkins, Archie E.	1 to 3, 7 to 8 p.m.	82 Day St., Fitchburg
1891	Perkins, Henry P.	Until 9 a.m., 1 to 3, 6 to 8 p.m.	30 Margin St., West Newton
1880	Perkins, Nathaniel R.	1 to 3 p.m.	1122 Adams St., New Dorchester
1881	Perkins, S. Manning	1 to 4, 7 to 8 p.m.	20 So. Common St., Lynn
1892	Petersen, Henrik G.	11 to 12 a.m., 2 to 5 p.m.	85 Newbury St., Boston
1889	Pfefferhorn, Ferdinand C. L.	2 to 4, 7 to 8 p.m.	29 Berkeley St., Lawrence
1895	Phillips, Eugenie M.	1 to 3.30, 7 to 8 p.m.	19 Highland Ave., Somerville
1900	Phillips, W. F.	8 to 9 a.m., 2 to 3, 7 to 8 p.m.	7 Nelson St., New Dorchester
1901	Pierce, Helen F.	8 to 10 a.m., 4 to 7 p.m.	13 Pleasant St., Plymouth
1900	Piper, Fred S.	1 to 3, 7 to 8 p.m.	Lexington
1901	Plummer, Julia Morton	10 to 12 a.m , Saturdays and Sundays excepted.	160 Huntington Ave., Boston
1891	Powers, A. Howard	Until 9 a.m., 1 to 3, 6.30 to 7.30.	406 Massachusetts Ave., Boston
1893	Rand, John P.	8 to 9 a.m., 1 to 3, 7 to 8 p.m.	74 Main St., Monson
1901	Raynes, Myrton B.	1 to 3, 7 to 9 p.m.	969 Main St., Melrose
1891	Reed, Clara D. W.	Until 9 a.m., 1 to 3, 7 p.m.	140 Church St., Newton
1893	Rice, George B.	1.30 to 3.30 p.m.	220 Clarendon St., Boston
1899	Rice, Harry E.	2 to 4, 7 to 8 p.m.	236 State St., Springfield
1880	Richardson, Frank C.	1.30 to 3.30 p.m.	685 Boylston St., Boston
1880	Roberts, Oscar W.	8.30 to 9 a.m., 2 to 4, 7 to 8 p.m.	4 Chestnut St., Springfield
1896	Robinson, Florence N.	2 to 4, 7 to 8.30 p.m. Sun. 1.30 to 3 p.m.	21 Valley St., Lawrence
1899	Rockwell, John A.		Harriman, Tenn.
1899	Rockwell, J. Arnold	11.30 a.m., to 1.30 p.m., and by appointment.	685 Boylston St., Boston

Year.	Name.	Office Hours.	Residence.
1880	Rogers, Charles R.		9 Brewster St., Plymouth
1894	Rogers-Rutter, Clara	2 to 4 p.m.	228 Essex St., Lawrence
1878	Rollins, C. Abbie	2 to 4, 7 to 8 p.m.	221 Shurtleff St., Chelsea
1899	Rowe, Alice E.	Until 9 a.m., 2 to 4 p.m.	183 State St., Springfield
1878	Russegue, Henry E.	8 to 9 a.m., 2 to 3.30, 7 to 7.45 p.m. Sun. 3 to 4 p.m. only.	95 Farmington Ave., Hartford, Conn.
1892	Russell, Julia A. B.	8 to 10 a.m., 4 to 6 p.m.	489 Main St., Malden
1885	Sanborn, Emma M. E.		4 Norton St., Andover
1880	Sanders, Orren B.	1 to 3, 6 to 7 p.m.	358 Commonwealth Ave., Boston
1867	SAWTELLE, GEORGE B.	Until 9 a.m., 2 to 3, 7 to 8 p.m.	14 Florence St., Malden
1891	Sawyer, Willis H.	2 to 3, 6 to 7 p.m.	578 Columbia Road, Dorchester
1859	SCALES, EDWARD P.	Until 9 a.m., 2 to 3, 7 to 8 p.m.	475 Centre St., Newton
1899	Schubmehl, Frank E.	11 to 12 a.m., 7 to 8 p.m.	376 Blue Hill Ave., Roxbury
1871	SCOTT, CHESTER W.	1 to 3, 7 to 9 p.m.	25 Bradford St., Lawrence
1892	Scott, Cyrus W.	1 to 3, 7 to 9 p.m.	89 Main St., Andover
1893	Searle, George J.		Marlboro
1891	Sears, Eloise A.	Until 9 a.m., 1 to 3 p.m.	58 Adams St., Waltham
1889	Seip, Charles L.	Until 10 a.m., 2 to 4, 7 to 8 p.m.	299 Union St., New Bedford
1886	Selee, Annie M.	Until 9 a.m., 1 to 3 p.m.	115 Emerson St., Melrose
1886	Shaw, John C.	2 to 4, 7 to 8 p.m. Sun. 2 to 7 p.m.	20 So. Sixth St., New Bedford
1882	Shaw, John J.	2 to 4, 7 to 8 p.m.	12 and 14 Brewster St., Plymouth
1876	SHAW, JAMES S.	Until 9 a.m., 2 to 4, 6.30 to 7.30 p.m.	552 Tremont St., Boston
1875	SHERMAN, JAMES T.	2 to 3, 6 to 7 p.m. Sat. excepted.	29 Virginia St., Dorchester
1860	SHERMAN, JOHN H.	Until 9 a.m., 1 to 2, 7 to 8 p.m.	534 Broadway, South Boston
1862	SISSON, EDWARD R.	Retired	15 Eighth St, New Bedford
1900	Smith, Conrad	8 to 9 a.m., 3 to 5 p.m.	279 Dartmouth St., Boston
1886	Smith, Winfield	1.30 to 3.30 p.m.	845 Boylston St., Boston
1900	Souther, Robert F.	4 to 6 p.m.	845 Boylston St., Boston
1883	Southwick, George R.	8 to 9 a.m., 1.30 to 3 p.m.	31 Massachusetts Ave., Boston

Year.	Name.	Office Hours.	Residence.
1900	Spalding, Harry O.	8 to 8.30 a.m., 1 to 2, 6.30 to 7 p.m.	50 Seaverns Ave., Jamaica Plain
1867	SPALDING, HENRY E.	8 to 9 a.m., 1 to 2.30; 7 p.m.	519 Beacon St., Boston, and Hingham
1881	Spalding, Samuel H.	1 to 2, 6 to 7 p.m.	Hingham
1899	Spencer, G. F. A.	Until 8.30 a.m., 1 to 3, 7 to 8 p.m.	40 Church St., Ware
1901	Steele, H. Leon	Until 9 a.m., 1 to 2.30, 6 to 8 p.m.	23 Cottage St., Norwood
1900	Stedman, J. P.	Until 9 a.m., 2 to 3.30, 7 to 8 p.m.	55 W. Elm St., Brockton
1895	Stilson, Willard C.	3 to 4, 7 to 8 p.m.	629 Salem St., Malden
1886	Stone, Waldo H.	Until 9 a.m., 2 to 3, 7 to 8 p.m.	The Channing, Smith & Common Sts., Providence, R.I.
1893	Strong, Thomas M.	Until 9.30 a.m., 2 to 4 p.m.	176 Huntington Ave., Boston
1871	STURTEVANT, CHARLES	8 to 9 a.m., 4 to 6 p.m.	27 E. River St., Hyde Park
1892	Suffa, George A.	1 to 4 p.m.	220 Clarendon St., Boston
1880	Sutherland, John P.	Until 9 a.m., 3 to 5 p.m.	295 Commonwealth Ave., Boston
1893	Swain, Mary L.	10 a.m. to 1 p.m.	178 Huntington Ave., Boston
1899	Sweet, Clara M.	10 to 11 a.m., 2 to 4, 7 to 8 p.m.	2 Maple St., Springfield
1875	SYLVESTER, STEPHEN A.	8 to 9 a.m., 1 to 3 p.m.	Newton Centre
1891	Talbot, George H.	3 to 5 p.m.	306 Walnut St., Newtonville
1895	Talbot, Winthrop T.		Holderness, N. H.
1882	Taylor, Esther W.	10 to 12 a.m., 2 to 4 p.m.	15 E. Cottage St., Boston
1891	Taylor-Cole, Anna B.	8 to 9.30 a.m., 1 to 2, 4 to 7 p.m. Sundays, 2 to 3 p.m.	34 Pearl St., East Somerville
1889	Thomas, Charles H.	Until 9 a.m., 4 to 6 p.m.	427 Broadway, Cambridge
1877	TOBEY, WALTER H.	8 to 9 a.m., 2 to 3, 6.30 to 7.30 p.m.	173 Newbury St., Boston
1880	Tompkins, Albert H.	8 to 9 a.m., 2 to 3 p.m.	20 Seaverns Ave., Jamaica Plain
1884	Tower, George A.	8 to 9 a.m, 1 to 3 p. m.	80 Mt. Vernon St., Watertown
1894	Townsend, Willis M.	2 to 3.30, 7 to 8 p.m.	Melrose Highlands
1891	Turner, Maurice W.	8 to 9 a.m., 3 to 4 p.m.	127 Harvard St., Brookline
1899	Urich, John H.	2 to 3.30, 6.30 to 7.30 p.m.	432 Columbus Ave., Boston
1893	Utley, Edward R.	Until 8 a.m., 1 to 3 p.m.	497 Centre St., Newton
1875	UTLEY, JAMES	Until 8 a.m., 1 to 3 p.m.	497 Centre St., Newton

Year.	Name.	Office Hours.	Residence.
1901	Valentine, John F.	1 to 2, 7 to 8 p.m.	20 Locust St., Danvers
1880	Vander Burgh, David W.	Until 10 a.m., 1 to 3, 7 to 8 p.m.	320 Rock St., Fall River
1899	Van Deursen, George L.	2 to 4 p.m. Sun. excepted, 7 to 9 p.m. Wed. Thu. Sun. excepted. 12 to 1 p.m. Sun.	17 Kirk St., Lowell
1878	Warner, Frederick A.	2 to 4, 7 to 9 p.m.	56 Kirk St., Lowell
1899	Warren, Frank R.	11 to 12 a.m., 5 to 6 p.m.	68 Pleasant St., Worcester
1871	WARREN, JOHN K.	2 to 4 p.m.	68 Pleasant St., Worcester
1901	Watters, William H.	11 a.m. to 4 p.m.	80 E. Concord St., Boston
1898	Wells, David W.	12.30 to 4.30 p.m.	Hotel Westminster, Boston
1898	Wentworth, Caroline Y.	8 to 9 a.m., 4 to 5 p.m.	Newton Highlands
1858	WESSELHOEFT, CONRAD	8 to 9.30 a.m,, 3 to 5 p.m.	661 Boylston St., Boston
1872	WESSELHOEFT, WALTER	8 to 9 a.m., 2 to 3 p.m.	26 Garden St., Cambridge
1893	Wesselhoeft, William F.	3 to 5 p.m.	176 Commonwealth Ave., Boston
1858	WESSELHOEFT, WILLIAM P.	8 a.m to 1, 5 to 6 p.m.	176 Commonwealth Ave., Boston
1888	Weston, Isabel G.	Until 9 a.m., 2 to 4 p.m.	Wellesley
1875	Wheeler, Morris P.	Until 8.30 a.m., 1.30 to 3 p.m.	9 Virginia St., Dorchester
1890	White, George E.	3 to 6 p.m.	Sandwich
1885	Whiting, Walter B.	2 to 4, 7 to 8 p.m.	109 Summer St., Malden
1901	Whitmarsh, Henry A.	8 to 9 a.m., 2 to 4 p.m.	64 Jackson St., Providence, R. I.
1901	Wiggin, Ralph C.		Massachusetts Homœopathic Hospital, Boston
1883	Wilder, Sarah E.	11 a.m. to 1 p.m.	505 Columbus Ave., Boston
1891	Wilkins, George H.	1 to 2, 7 to 8 p.m.	Pleasant St., Palmer
1898	Windsor, Sarah S.	1 to 3 p.m.	138 Marlboro St., Boston
1900	Winslow, Richard E.	8 to 9 a.m., 4 to 6, 7 to 9 p.m.	Norwood
1900	Wiswall, Edward H.	2 to 4 p.m.	Washington St., Wellesley
1895	Wood, Nelson M.	2.30, 6.30 to 8 p.m.	71 Elm St., Charlestown
1880	Woods, Charles L.	8 to 9 a.m., 1 to 3, 7 to 9 p.m.	10 John St., Lowell
1888	Worcester, George W.	1 to 3, 6.30 to 7.30 p.m.,	124 High St., Newburyport
1893	Worcester, John F.	9 a.m., 2 to 3, 7 to 8 p.m.	405 Washington St., New Dorchester

CORRESPONDING MEMBERS.

Year.	Name.	Residence.
1885	Allen, T. F.	New York, N. Y.
1885	Arndt, H. R.	San Diego, Cal.
1885	Beckwith, D. H.	Cleveland, O.
1885	Budlong, J. C.	Providence, R. I.
1885	Claude, A.	Paris, France
1885	Eckel, John N.	San Francisco, Cal.
1864	Fisher, Arthur,	Montreal, Can.
1885	Houghton, Henry C.	New York, N. Y.
1875	Kavalgian, D. S. C.	Adapazar, Turkey
1880	Mellus, Edward L.	10 E. Chase St., Baltimore
1885	Oehme, F. G.	Roseburg, Oregon
1885	Orme, F. H.	Atlanta, Ga.
1896	Paine, Horace M.	67 No. Forsyth St., Atlanta, Ga.
1885	Talcott, S. H.	Middletown, N. Y.

HONORARY MEMBERS.

Year.	Name.	Residence.
1885	Dudgeon, R. E.	London, Eng.
1885	Helmuth, William Tod,	New York, N. Y.
1885	Hughes, Richard,	Brighton, Eng.
1885	Jousset, P.	Paris, France
1885	Pope, Alfred C.	Tring, Hertfordshire, Eng.
1897	McClelland, James H.	5th & Wilkins Aves., Pittsburg, Pa.

The Massachusetts Homœopathic Medical Society

WAS ORGANIZED IN 1840 AND INCORPORATED IN 1856.

Its meetings are held twice a year, on the second Wednesday in April, and the second Wednesday in October.

Its Executive Committee holds regular Quarterly meetings on the third Wednesday in April, July, October, and January, and special meetings as occasion may require.

Any person who has received the degree of doctor of medicine from a legally authorized medical institution, and who sustains a good moral character, may become eligible to membership. Annual membership fee, five dollars. Application blanks for membership may be obtained of the secretaries.

If every member would bring to the notice of those who have not yet joined, its long record of active work in behalf of the cause of Homœopathy, and the benefit and protection of its members, much good would surely result, not only to the Society but to the profession at large.

FREDERICK L. EMERSON, M. D., *Recording Secretary.*
50 HANCOCK STREET, DORCHESTER.

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